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Tamil Arasu

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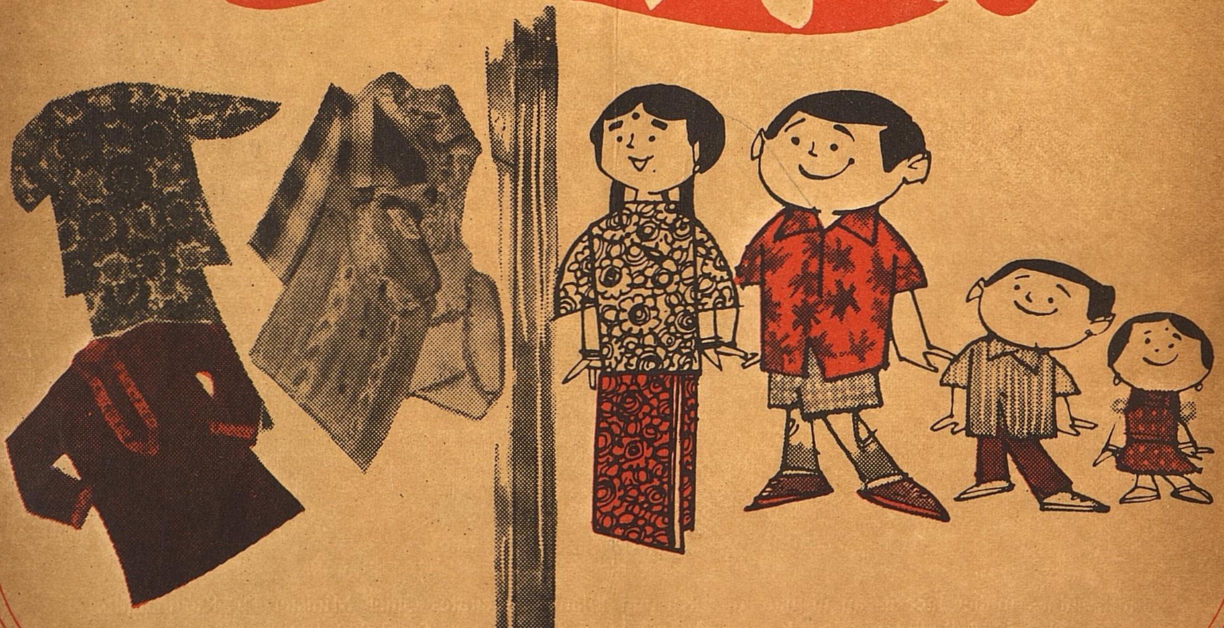

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WHERE FAIR FAITH SHONE

Faith shines in her face as an in-mate of "Karunai Illam" felicitates Chief Minister Dr. Karunanidhi on his 52nd Birthday. The Karunai Illams provide foster-care for 3,000 destitute children.

Tamil Arasu

Vol. V June, 1975 Issue 12

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Chief Minister's Birthday Schemes

GOVERNOR IS ALL PRAISE FOR THEM

Speech of Thiru K. K. Shah, Governor of Tamil Nadu, at the opening function of the Workshop for the Physically Handicapped at Muttukkadu on 1st June, 1975.

The Government of Tamil Nadu under the dynamic leadership of our able Chief Minister Dr. Kalaignar Karunanidhi has been taking up one scheme after another to help the weaker sections of society. Whenever our Chief Minister celebrates his birthday, he makes it a point to inaugurate a new scheme, utilising the funds received on the occasion. The idea of celebrating birthdays for a social cause—in sharp contrast to the satisfaction of one's ego on such occasions—is welcome and praiseworthy. Your whole being then gets permeated with anxiety to serve the masses and radiates it in all your actions.

It is thus that various welfare measures, which have been initiated from year to year by the Government of Tamil Nadu for the benefit of the most vulnerable sections of society, have won appreciation all over the country. **We have so far undertaken schemes for the rehabilitation of leprosy affected beggars, provision of eye camps to the blind, replacement of hand-drawn rickshaws by cycle-rickshaws and rehabilitation of the physically handicapped. These schemes have received the full support and co-operation of the public who have contributed Rs. 3.13 crores for these schemes. It is now proposed to take up a new scheme for taking care of destitute widows and orphans.**

It is also proposed to provide various facilities such as land reclamation and irrigation wells in the rehabilitation homes for leprosy beggars so that they could be gainfully employed. The main purpose of these schemes is to combine welfare with rehabilitation and to demonstrate that no Government can succeed in abolishing poverty if it depends only on jobs that the planners create. Unless job opportunities are substantially backed by opportunities of self-employment, the problem of unemployment cannot be solved.

The present scheme for looking after physically handicapped is expected to serve the double object of demonstrating how a welfare measure can be combined with job opportunities and how schemes of job opportunities can be self-sufficient and create confidence of earning enough by being self-employed. The Chief Minister has wisely invited another dynamic and able administrator Mr. Haksar, who is the Deputy Chairman of Planning Commission, to see for himself how this experiment works and if he is satisfied to assist Tamil Nadu in quickening the pace of this healthy transformation.

The physically handicapped constitute an important segment of our population and no Government can afford to neglect them. They have to be educated, rehabilitated and settled, so that they may join the main stream of national life and play their constructive nation-building role as self-respecting citizens. We have 3 categories of physically handicapped persons—the blind (estimated at 40 to 50 lakhs); the deaf; and the mentally retarded. Voluntary social service organistions are doing excellent work and have deservedly won encomiums. Assistance is given to the voluntary organizations serving the handicapped by the State and Central Governments.

The special feature of this modern production-*cum*-training centre for the physically handicapped opened today is that not only will it train physically handicapped persons in the operation of the modern machinery and then try to give them employment, but it will also be a production centre selling turned and machined components, fabricated steel furniture, tricycles, tool bits etc. and is ultimately expected to stand on its own legs. I have no doubt that those who run this workshop and those who benefit by it will give an excellent account of themselves and set an example to the rest of the country. I wish it every success.

Thiru K. K. Shah, Governor, Dr. M. Karunanidhi, Chief Minister, Thiru P. N. Haksar, Deputy Chairman of Union Planning Commission, Thiru C. V. M. Annamalai, Minister for Social Welfare and others are seen visiting the machinaries installed in the Workshop for the Physically Handicapped at Muttukkadu.

FOSTER CARE FOR ORPHANS AND NEW LIFE FOR WIDOWS

C.M.'s BIRTHDAY SCHEMES

Foster Care for 3,000 young orphans have been created in Tamil Nadu in fulfilment of the birthday behest of Dr. M. Karunanidhi, Chief Minister of Tamil Nadu, on 3rd June, 1975. As many as 52 "Karunai Illams" providing accommodation for 3,000 orphans have sprung up all over the State. Along with this scheme, the Chief Minister has also announced as his birthday gift to the society at large the issue of 10 years time deposit certificate worth Rs. 5,000/- which will grow into more than Rs. 10,000 after the lapse of the stipulated period for those who come forward to marry widows in the age group of 18 to 30 years in addition to providing some special benefits to the widows above 45 years old.

Orphans in the age group of 5 to 10 would be admitted to the foster homes known as "Karunai Illams" and they will be provided educational facilities in the nearby institutions. The Hindu Religious Endowments Department bears 75 per cent of the cost of maintenance of these homes and the Government will bear the remaining 25 per cent. The Government will also bear the non-recurring expenditure of Rs. 30 lakhs towards construction of buildings for these homes.

Applications exceeding 7,000 for admission to these homes have been received. The applications have been scrutinised by a Committee in each district which include the District Collector, Deputy Commissioner, H.R.E., and District Welfare and Harijan and Backward Class Welfare Officers. About 3,000 applicants have been selected for admission after taking into account whether they have parents or guardians, and if the mother is alive, whether she has the capacity to maintain the child. The children admitted to spceial homes will be given general education first and vocational training later, apart from free lodging and boarding facilities till they reach 18 years.

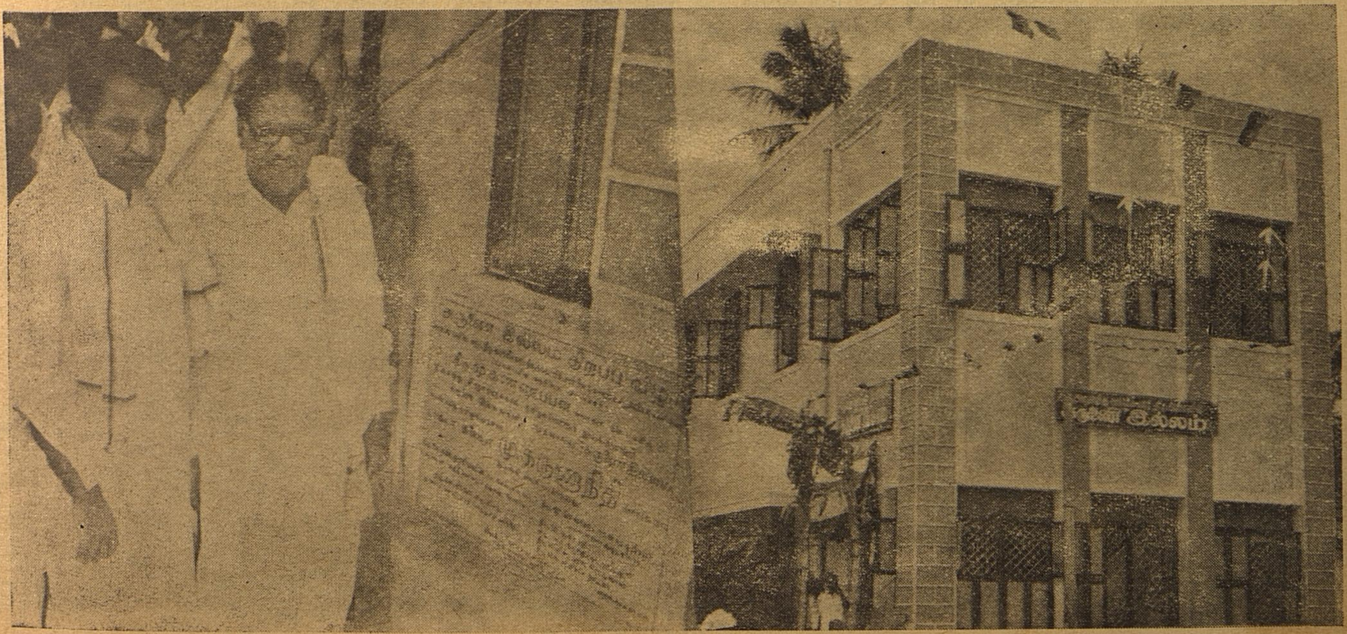
As far as widows without any means of livelihood are concerned those above 45 years of age will be made eligible for the old age pension of Rs. 20 a month. The old age pension is now being given to those aged 60 and above and if physically handicapped, to those above 55 years of age. It is also proposed to give sewing machines each costing about Rs. 700 to 1,000 to widows without dependents this year.

Under the supervision of the Khadi and Village Industries Board, 500 rural spinning centres with Ambar Charka are proposed to be set up to provide employment to widows, the expenditure on this being met by the Government. Preference will be shown in the matter of employment to widows trained in other crafts.

Besides these, those coming forward to marry widows in the age group of 18 to 30 will be given savings certificates worth Rs. 5,000 which would enable the couple to get Rs. 10,000 ten years later. This incentive is intended to encourage widow remarriage.

The Government will also continue to provide financial assistance to institutions already engaged in taking care of destitute children.

—R. N.



The Chief Minister is declaring open the first "Karunai Illam" at Mylapore in Madras City

THE TAMIL NADU GOODS TRANSPORT CORPORATION

Dr. M. Karunanidhi, Chief Minister, inaugurated the State-owned Tamil Nadu Goods Transport Corporation on 3rd June, 1975 under the presidentship of Dr. V. R. Nedunchezhiyan, Minister for Education and Tourism. To start with, the Corporation has started its operation with a fleet strength of 10 lorries. Before the current financial year draws to a close, the fleet strength is likely to jump to 100 lorries. The total initial capital outlay of the Corporation is Rs. 40 lakhs.

Inaugurating the Corporation, the Chief Minister observed that ex-service men would be given first preference in the matter of recruitment to the Corporation and that the Union Government should extend its monetary help to the Corporation in a generous way from the ex-Servicemen Fund. The Chief Minister also advised the lorry drivers of the Corporation that they should set an example to their counterparts in private sector in accident-free, safe driving. The Chief Minister further said that the Corporation lorries would solely handle the transport needs of the State Civil Supplies Department, in addition to transportation of CARE goods throughout the length and breadth of the State.

Presiding over the function, the Education Minister said that the departments under his control would take full advantage of the transport facilities provided by the Corporation.

Allaying the fears of the private lorry owners, the Minister for Transport observed in his speech that the total fleet strength of the Corporation would constitute only a small drop in the ocean of 17,000 lorries in the State and that the activities of the Corporation would not affect the private fleet owners. He also said that in all the Corporation, would save Rs. 20 lakhs per annum to the State Exchequer by way of cheap transport facilities.

Thiru T. S. Bhango, Chairman of the Corporation welcomed the gathering while Thiru Damodaran, Managing Director of the Corporation, proposed a vote of thanks. —R.N.

THE JULY

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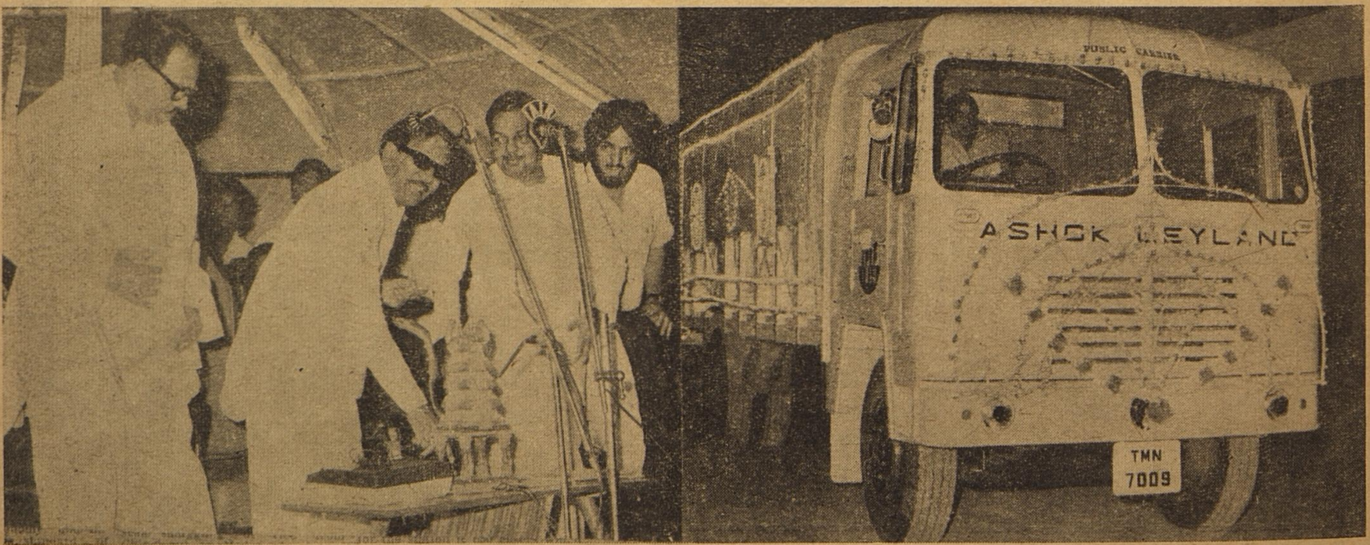


The Chief Minister is seen inaugurating the Tamilnadu Goods Transport Corporation.

SOCIAL WELFARE GIVES NEW MEANING FOR CHILD WELFARE

The overall objective of the Fifth Five Year Plan for Social Welfare is to strengthen and preserve the integrity of the family as a unit and to save it from distintegration caused by the divisive trends let loose by industrialisation, urbanisation and commercialism in recent years. Having regard to this overall objective, suitable plans have to be drawn up under the following broad heads :

Women's Welfare

The following should be the broad objectives under this head during the Fifth Five Year Plan ;

(*a*) Suitable programmes and schemes should be drawn up for the economic and social rehabilitation of physically handicapped women. This would include poor women deserted by the family or by their husbands, destitute women and other categories of women who have been left to fend for themselves without proper means of support. In order to achieve the objective of economic rehabilitation of socially handicapped women, we should draw up suitable schemes for their education and vocational training. Before drawing up such schemes, a careful socio-economic survey must be done to locate the profitable and remunerative lines of occupation in order to ensure that those who are given vocational training are not later on stranded for want of suitable jobs.

(*b*) To draw up suitable schemes for absorption of educated girls who are now unemployed.

(*c*) To draw up welfare programmes for working women.

(*d*) To implement schemes which will enable women from poor families to supplement their low family income.

(*e*) The existing Mahalir Manrams in the State will be reoriented in accordance with a planned programme. At the moment there is no proper arrangement for effective supervision over the activities of the Mahalir Manrams in the villages. This is partly due to the fact that we do not have adequate field staff to co-ordinate and supervise the activities of the Mahalir Manrams. It has, therefore, been proposed to appoint a trained Secondary Grade teacher for every Mahalir Manram during the Fifth Five Year Plan in accordance with a phased programme. The Secondary Grade teacher with her special training will be in a position to conduct, co-ordinate and supervise the activities of the Pre-schools and the Mahalir Manrams. She will also be given the responsibility of supervising the Pre-school in each village. She will co-ordinate the acvities of the Pre-school and the activities of the Mahalir Manrams. She will also guide the Mahalir Manrams in the implementation of socio-economic programmes for socially handicapped women and other women belonging to poorer classes. Besides, she will also be put in charge of conducting classes for adult education.

Keeping the above objectives in view, the following programmes have been proposed:

(*i*) As part of the Family and Child Welfare Programme in the rural areas, it has been proposed to appoint a Secondary Grade teacher each for 7,500 Mahalir Manrams at the rate of 1,500 per year in a phased manner. The Mahalir Manrams will get integrated with the Balwadies to become " Family and Child Welfare Centres."

(*ii*) We have in view two kinds of welfare programmes for working women.

(*a*) In view of the rising cost of living, working women find it difficult to get decent boarding and lodging facilities at reasonable cost in all major towns and cities. In order to help the working women coming from poorer classes, it is proposed to construct or start (in hired premises) Working Women's Hostels.

(*b*) It is also proposed to organise training and educational programmes for

working women after office hours to enable them to improve their qualifications. In a growing economy, a higher premium is always placed on better and more sophisticated skills. Unless we properly equip the working women with better skills, they will never be able to fare well in the race for better jobs carrying better scales of pay.

(*iii*) It is proposed to organise orientation-cum-vocational training - cum - education programmes for destitute and economically backward women on a decentralised basis.

(*iv*) It is proposed to give grants to voluntary institutions for implementation of socio-economic programmes for socially handicapped women.

(*v*) It has been proposed that interest-free loans may be given by Government to voluntary institutions for launching socio-economic programmes for the rehabilitation of socially handicapped women.

Family and Child Welfare

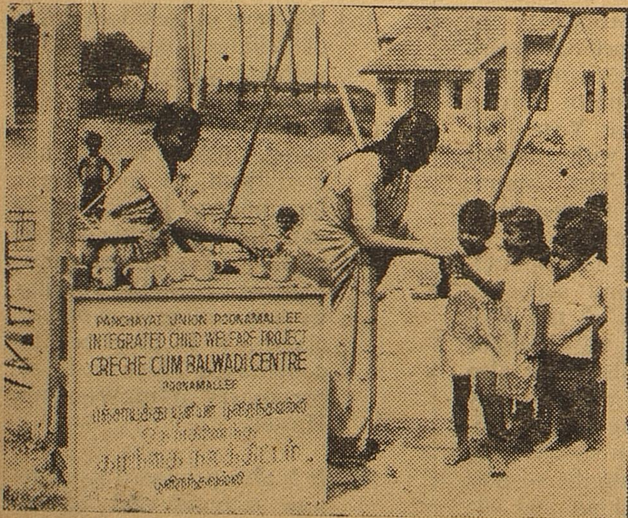
The basic objectives under this head would be :

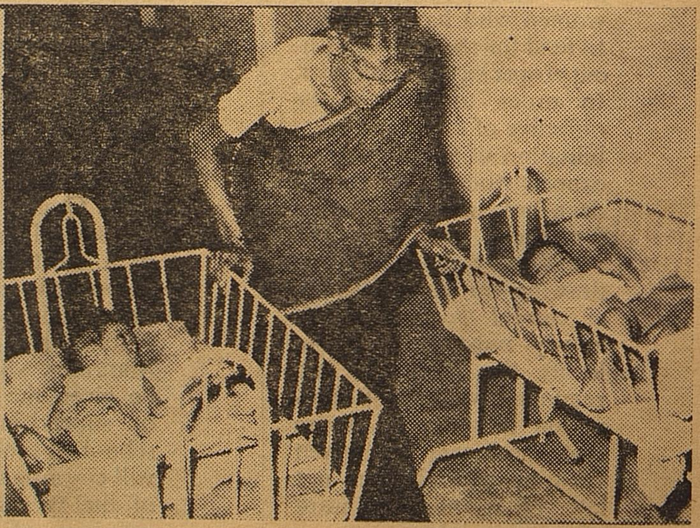
(*a*) To bring down the rate of infant mortality by an integrated approach to child welfare. It is now increasingly realised that a piece-meal approach to child welfare will not produce the desired results and that there should be an integrated, co-ordinated and comprehensive approach to child welfare. This means that all the services and inputs such as nutrition, nutrition education, immunisation, pre-school education, public health and sanitation and other essential services should be provided in a package manner through one institutional agency in every village. In other words, instead of Balwadis or Pre-schools, we should have comprehsnive Child Welfare Centres. The aproach during the Fifth Five Year Plan should be to route all the early childhood services in an integrated manner in every village through Child Welfare Centres.

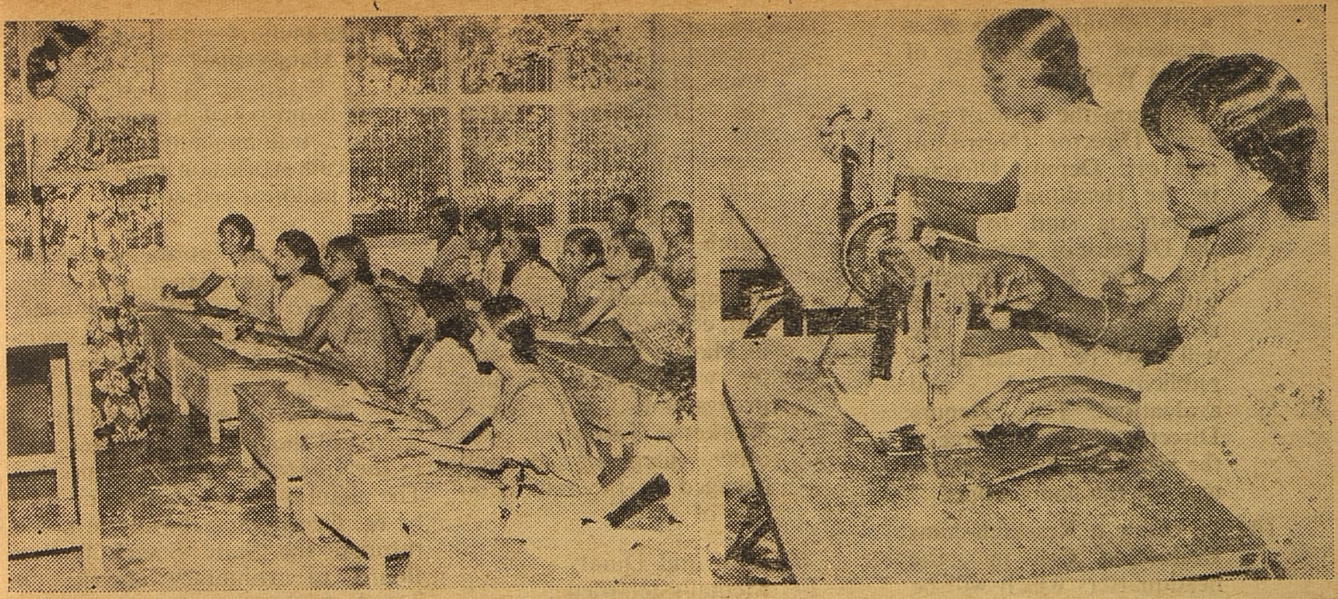
(*b*) The Mahalir Manrams (there are about 13,000 Mahalir Manrams in our State) have been functioning in a very unsatisfied manner. Many of them have become defunct. There has been no point of useful contact or co-ordination between the Mahalir Manrams and the Balwadis. During the Fifth Five Year Plan, our objective must be to integrate the Mahalir Manrams with the pre-schools and to see that every village has a Family and Child Welfare Centre. All the programmes for the training and education of women and mothers in every village will be organised through these Family and Child Welfare Centres. The Family and Child Welfare Centre will function as the nucleus for channelisation of all family and child welfare services in every village. In short, a composite programme of family and child welfare has been proposed. As has been stated earlier, this integration and co-ordination will be brought about by appointing a Secondary Grâde teacher for every Family and Child Welfare Centre who will integrate the activities of the Mahalir Manram and Pre-school in every village.

(*c*) All the various nutrition programmes now being implemented by different departments under different names will get integrated with the proposed Family and Child Welfare Programe. The main objective of nutrition programmes in the Fifth Plan will not dole out food in an indiscriminate manner. The aim will be to nutritionally rehabilitate the grossly malnourished children in every village.

In order to give effect to the above objectives, the following programmes have been proposed under the Family and Child Welfare Programme :







Classes for general education (L) and tailoring are run by the Social Welfare Dept.

(*i*) It is proposed to open 5,000 new pre-schools at the rate of 1,000 new Pre-Schools every year in the rural areas during the Fifth Five Year Plan. We are already having about 2,500 Pre-Schools in the State. This would mean, that by the end of the Fifth Five Year Plan we would be having 7,500 Pre-Schools. There are 13,062 village Panchayats in Tamil Nadu. Out of this, 75,00 villages will get covered by a Pre-School leaving a balance of about 5,500 which can be taken up during the Sixth Five Year Plan, if resources become available. These Pre-schools will be integrated with the Mahalir Manrams in the respective villages to function as Family and Child Welfare Centres. Care will be taken to see that as many Family and Child Welfare Centres, at any rate not less than 20% of the total, are so located as to benefit the people belonging to the Scheduled Castes and Scheduled Tribes. All early childhood services — nutrition, nutrition education, immunisation, pre-school education, public health and sanitation, will be routed through the Family and Child Welfare Centres in every village.

(*ii*) The Mahalir Manrams will get integrated with the Balwadis to become "**Family and Child Welfare Centres**". These Secondary Grade Teachers will be **multipurpose workers** at the village level and will supervise the work of Balsevikas, help conduct the Mahalir Manrams in an effective way with the help of the local Convenor, and also supervise the feeding programme in the pre-schools. In addition to these, she will also help to propagate the Family Planning Programmes and help in spreading the idea of Small Savings among the village women. The Secondary Grade teacher will act as a liason officer between the various departments during the intensive drive periods of Family Planning, Small Savings, etc. She will also conduct adult literacy classes for women.

(*iii*) As part of the Family and Child Welfare Programme, it is proposed to open 200 Family and Child Welfare Centres in Municipal Towns and Cities.

Administrative Re-organisation

The following proposals have been made :

(*a*) To organise suitable orientation training programme for existing staff.

(*b*) To re-organise the department along the following lines :

(*i*) To have a District Women's Welfare Officer for each Revenue Division instead of for each district as at present and to accord Gazetted status to these officers. Since there are 45 Revenue Divisions in the State this would mean that we must create 32 new posts of District Women's Welfare Officers. Once we have an officer for each Revenue Division, it will be a misnamer to designate that officer as a District Women's Welfare Officer. It is, therefore proposed that District Women's Welfare Officers may be redesignated as either Divisional Women's Welfare Officers or simply as Women's Welfare Officers.

(*ii*) To have one Assistant Director of Social Welfare with supporting staff for each district. While a percentage of these posts should be reserved for the existing staff of the Department (who are now without avenues for further promotions), yet at the same time, an attempt should also be made to inject new blood into the Department by making a provision for direct recruitment. This would mean that some officers will directly be appointed as Assistant Directors of Social Welfare. Only candidates with post graduate qualifications, with specialisation in social

work, should be taken as Assistant Directors of Social Welfare.

(*iii*) To create the post of one Joint Director (Nutrition) and one Deputy Director in the Headquarters with supporting staff to assist the Director of Social Welfare. The Joint Director will be in charge of all nutrition programmes. He will also be in-charge of publicity, research and evaluation. The Deputy Director will be in charge of the rehabilitation programmes for the handicapped.

(*iv*) To create a Research-cum-Evaluation Cell in the headquarters which will be supervised by the proposed Joint Director (Nutrition and Research).

(*v*) To sanction suitable regional staff for doing publicity work in relation to nutrition and other social welfare programmes.

IV. Programmes for the Physically Handicapped

The main objective of the programmes under this head will be comprehensive and total rehabilitation of the physically handicapped (defined in the widest possible sense to include blind, deaf and dumb, mentally handicapped, mentally retarded, orthopaedically handicapped etc.) This would mean :

(*i*) Medical rehabilitation including treatment and Physiotheraphy ;

(*ii*) Education and training with an occupational and functional bias ;

(*iii*) Economic rehabilitation through resettlement in employment ; and

(*iv*) Social rehabilitation acceptance by society in general and the family (to which a physically handicapped person belongs)in particular of the fact that a physically handicapped person, given the requisite kind of training, can be as effective and efficient as a normal worker without any physical deformity or disability.

In order to achieve the above mentioned objectives, the following programmes have been proposed :

(*a*) **General :** It has been proposed that a Research-cum-orientation-cum-staff training centre may be started for the physically handicapped (as defined in the widest possible sense to include the blind, deaf and dumb, mentally handicapped, mentally retarded, orthopaedically handicapped, etc.) with headquarters in Madras City. This centre wil organise training programmes for Social Workers, Teachers and other categories of staff engaged in the rehabilitation of

(*i*) Deaf and Dumb ;
(*ii*) Mentally retarded ;
(*iii*) Orthopaedically handicapped ;
(*iv*) Blind, and
(*v*) Other categories of physically handicapped people.

Apart from initiating training programme for the various categories of staff associated with the rehabilitation of the physically handicapped people, this centre will also initiate research programmes in several unexplored areas in this long neglected field. This centre will also liasion with the national institute for the physically handicapped which has recently been set up by the Central Government. It will also liasion with other specialise institutions connected with the rehabilitation of the physically handicapped in other States and in other countries of the world.

(b) Prograamme for the mentally retarded

(*i*) It is proposed to start two special schools for mentally retarded children of school-going age in two districts.

(*ii*) It is proposed to start a Vocational Training-cum-Rehabilitation Centre-cum-Workshop for mentally retarded adults.

(c) Programme for the Deaf and Dumb

It is proposed to start a Vocational Training-cum-Rehabilitation Centre for adult Deaf and Dumb.

(d) Programme for the Blind

It is proposed to start a vocational training-cum-rehabilitation centre-cum-sheltered workshop for the adult blind.

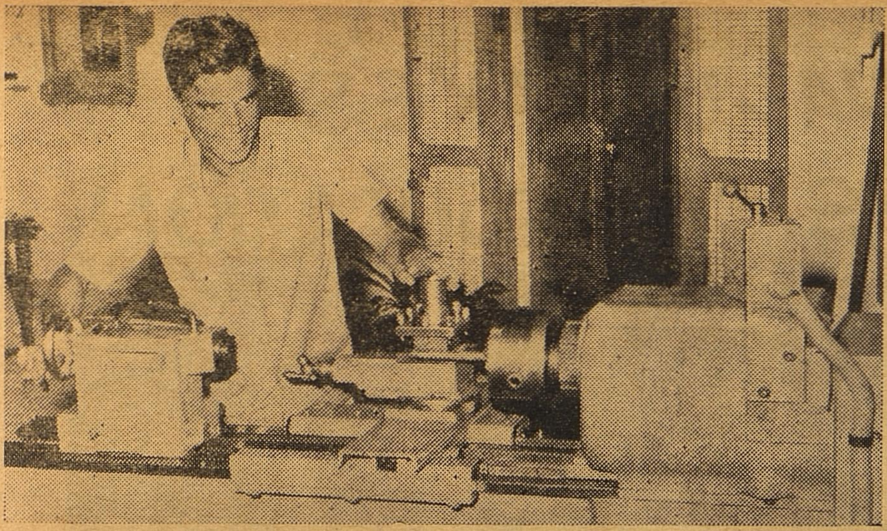
(e) Programme for the Orthopaedically Handicapped

It is proposed to start a vocational training-cum-rehabilitation centre-cum-workshop for Orthopaedically handicapped adults.

Besides the above mentioned departmental programmes, it is also proposed to give grants to Voluntary Institutions for implementing socio-economic programmes for the rehabilitation of the physically handicapped. This has been proposed having regard to the poor flow of resources to the voluntary agencies at present. The quantum of grants now released by the Central Social Welfare Board through the State Social Welfare Board to voluntary agencies in Tamil Nadu for this purpose is found to be totally inadequate. Hence the proposal.

V. Preparation of a Standard Comprehensive Reference Volume on Social Welfare

Considering the ever widening scale and scope of activities and programmes of the Government and Voluntary agencies in the sphere of Social Welfare, it is felt that we should have a standard reference volume on Social Welfare activities and programmes in Tamil Nadu. For instance, a standard reference volume on social welfare activitie in India was brought out by the Central Social Welfare Board in the year 1954. But, unfortunately it has now become out of date. Despite this, it serves as a very useful book of reference. In the proposed reference volume on Social Welfare, we intend including all the activities and programmes of the Government and voluntary agencies. Some chapters in the volume will also be devoted to the Welfare Programmes implemented by the other State Governments, State Social Welfare Boards in other States and also the Voluntary agencies throughout the country. This volume can be updated from time to time. This reference volume will help the Officers, planners and the staff of this Department in the planning and formulation of suitable welfare programmes for Women, Children and Physically Handicapped, etc. It will also serve to educate the public on the various programmes of the Department of Social Welfare and the Voluntary agencies in the State. An *ad hoc* provision of Rs. 2 lakhs has been made for this purpose.



Gainful employment for the handicapped.

VI. Setting up of a Social Welfare Library

The great practical importance of a reference library with documentation facilities as an indispensable adjacent to any development department is now increasingly realised in all the underdeveloped countries of the world. The department of Social Welfare does not have a reference library with documentation facilities at present. It is proposed to implement a very comprehensive Social Welfare Programme during the Fifth Five Year Plan. Unless Officers and the staff of this Department are exposed to wider influences through the medium of a well-equipped reference library with documentation facilities, they will be unable to do justice to their work. Even in a socialistic country wedded to the concept of equality, it has to be admitted that knowledge is power. The Social Welfare Department is going to become one of the most important departments in the coming years and therefore a beginning has to be made in this direction and a reference library should be established with proper documentation facilities. Only then the Officers and the staff of this Department will be in a position to keep themselves abreast of the latest developments in the field of SocialWelfare everywhere. Separately we have also proposed to establish a Research-cum-Evaluation cell cannot function efficiently in the absence of a reference library with documentation facilities. Thus, on any reckoning, it has to be conceded that a reference library with documentation facilities is indispensable for the Social Welfare Department. An *ad hoc* provision of Rs. 5.00 lakhs has been made for this purpose.

VII. Assistance to Voluntary Agencies

Nearly 100% of the grants now being given to Voluntary agencies in our State are being released by the State Social Welfare Board which get the funds from the Central Social Welfare Board which in its turn disburses this paltry amount to the innumerable voluntary agencies engaged in social work in our State. It will be readily accepted that in an underdeveloped State like ours, it will not be possible for the State by itself to tackle all the problems in the field of social welfare and that, therefore, its effort will have to be necessarily supplemented by the efforts of voluntary agencies, if we are to make any dent on the existing situation. If so, it becomes incumbent upon the State Government to provide grants to Voluntary agenices with a dedicated and proven record of service. Keeping this in view, the following programme have been proposed :

(*a*) Training and rehabilitation of the physically handicapped.

(*b*) For implementation of rehabilitation programmes for socially handicapped women.

VIII. Programme for the old and aged (Soriatrics)

The State Government has not thought of welfare programmes for the aged and old people without means of proper support. It has, therefore, been proposed that a beginning could be made in the Fifth Five Year Plan and three Homes could be started for the aged and infirm in three districts.

IX. Eradication of Beggary

(Other than Rehabilitation of Leprosy Beggars which comes under the Directorate of Health and Family Planning)

Our objectives under this head would be

(*a*) Comprehensive rehabilitation of all able bodied beggars, and

(*b*) Total eradication of beggars by the end of the Fifth Five Year Plan.

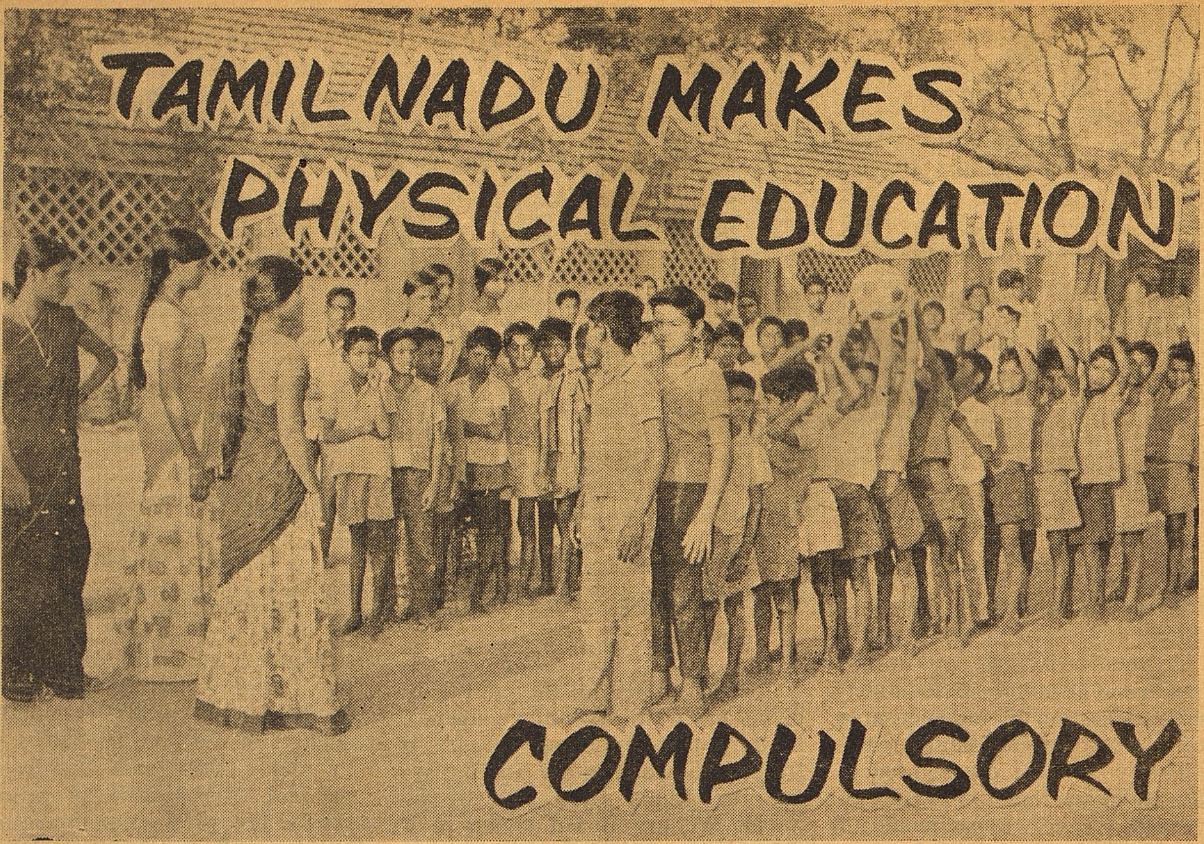
Keeping the above objectives in view, it has been proposed to strengthen the existing Beggar Homes by providing suitable technical staff for giving orientation training to the beggars in the Beggar Homes so as to make them economically independent. It is also proposed to start a few production-cum-training centres in the existing beggar homes. It has already been decided that the Melpakkam Care Home and the Kancheepuram Care Home should be taken over by the Director of Social Welfare before the end of the Fifth Five Year Plan.

To sum up, the following are the financial allocations proposed for Social Welfare in Tamil Nadu during the Fifth Plan :

Proposed outlay for the Fifth Plan (From 1—4—74 to 31—3—79)

		Rupees in lakh
I.	(*a*) Child Welfare ..	825.00
	(*b*) Women's Welfare	44.00
	(*c*) Welfare of the Physically handicapped	60.00
	(*d*) Training, Research Publication and Administration	61.00
	(*e*) Social Defence ..	10.00
	Total ..	1,000.00
		5,714.00
	Grand Total ..	6,714.00

TAMILNADU MAKES PHYSICAL EDUCATION COMPULSORY



With a view to improve the physical fitness of pupils in schools and make them sports-conscious, the Government have decided that from the academic year 1975—76 Physical Education be made a compulsory subject for examination and promotions in standards 6 to 11 of all higher elementary schools which have Physical Education teachers and in all High Schools.

All the schools coming under the description mentioned above will be grouped by the Regional Inspectors of Physical Education into the following three categories :—

(*a*) Schools with adequate play area ;

(*b*) Schools with limited play area ;

(*c*) Schools with no play area.

Separate sets of Physical Education and game activities for each of the three categories will be worked out by the Regional Inspectors and printed as a booklet with additional instructions for the guidance of schools in implementing this scheme. **The number of copies of the booklet required by the Director of School Education will be printed by the Tamil Nadu Text Book Society free of cost and delivered to the School Education Department for free distribution (i) among the schools at the rate of as many copies per school, as there are Physical Education teachers in that school plus 1 or 2 extra for each school ; and (ii) among the Inspecting officers of the School Education Department at the rate of 2 or 3 copies for each Inspecting Officer.**

Two tests — one at the end of the first term and the other at the beginning of the third—will be conducted and the better of the two performances will be credited to the student. The tests will be both in theory and practice. The marks for theory will be 20% and that for practical will be 80%. The Director of School Education is authorised to approve the scheme of evaluation for theory and practice for standards 6 to 11. In all schools where this scheme is implemented, the Headmasters will take into consideration the marks obtained in Physical Education by pupils in standards 6 to 10 for purposes of formulating the principles of promotion to the next higher class. For the present, there will not be any requirement as to the minimum marks in Physical Education in standard 11 for purpose of a pass in the S.S.L.C. The tests will however be done in std. 11 also as in standards 6 to 10 and those who get 85% and above in std. 11 will be awarded a " certificate of merit for Physical Education."

On the introduction of this scheme, the existing practice of conducting Fundamental skills tests in standards 9 to 11 will be discontinued. The Regional Inspectors of schools will soon after the reopening of schools in 1975—76, orient all the Physical Education teachers in schools within their jurisdiction on how to administer the various tests, how to maintain records and, generally, how to implement this scheme

successfully,—matters on which suitable instructions could be incorporated in the booklet mentioned in para 2 above also. The norms for evaluation of the battery of Physical fitness tests will be fixed by the individual schools on the basis of the actual performance on " AGE GROUP AVERAGE."

In all schools, where this scheme is introduced a " Physical Education and Internal Assessment Committee" will be constituted as follows :—

(*a*) Head master—*Chairman.*

(*b*) Physical Education Teacher who is the senior most possessing the highest qualification in Physical Education among the P.E.Ts.—in the school—*Member Secretary.*

(*c*) All other Physical Education teachers—*Members.*

(*d*) Persons nominated by the Headmaster from teachers of other subjects (who are interested in Physical Education) as per the following scale :—

Schools with a strength of 500 or below—3 *Members.*

For every additional 250strength or fraction thereof—1 *more member.*

In all such schools a School Sports Advisory Committee may also be formed wherever the headmaster considers it feasible. The Headmaster will be the Chairman and members of the local public who are sports-minded can be the members. This School Sports Advisory Committee will be constituted with the prior approval of the concerned District Educationa Officer/Inspectress of Girls Schools. This Committee will help the school in framing and implementing its sports and games programme.

It will be recalled that for quite some time the Honourable Minister for Education, Government of Tamil Nadu, has been emphasising the importance of Physical Education in schools from the point of view of the all round development of pupils. The recent conference of State Education and Sports Ministers was also of the same view. That conference has, among other things, recommended that State Governments should consider the possibility of making Physical Education, Sports and Games compulsory at the school level, and making participation therein a precondition for eligibility in school examinations. The Government of Tamil Nadu have examined this recommendation and have decided to implement it, with some slight modifications.

THE PLAN PROJECTS FOR 1975-'76

The Plan Projects approved for completion in the year 1975—76 are :

Agriculture :

1. State seed farms of 100 acres each will be established in the coastal districts to extend tapioca cultivation to 1 lakh acres. (2) The Intensive Agricultural Development Project (IDAP) will be extended to the 4 remaining districts of Ramanathapuram, Salem, Dharmapuri and Kanyakumari so as to ensure coverage of the entire State. (3) The summer crop paddy will cover 5 lakh acres. (4) Coarse grains and pulses will cover six lakh acres each. (5) A new exotic cattle development project is being implemented in Thanjavur with pedigree cattle imported from Denmark. (6) The Fisheries Development Corporation will build during the year 250 mechai nised boats. (7) A fishermen's housing programme starting this year will, to start with, construct 5,000 houses for Rs. 2 crores. (8) Eight new irrigation schemes are to bring 33,000 acres under irrigation, and stabilise irrigation in 18,000 acres at a total cost of Rs. 20.2 crores. (9) The ayacut under the Parambikulam—Aliyar project is to be increased by 89,000 acres. (10) A special minor irrigation programme of Rs. 3.5 crores has been taken up to cover the entire State. (11) A fifth 110 M.W. set is to be added at Ennore, where, with the help of BHEL, power generation is to be doubled during the year. (12) Completing of Kundah IV stage by 1976—77 and Suruliyar and the first unit at Tuticorin by 1978—79 are goals for this year's Power Projects expenditure.

(13) **Industries :** The progcrammes comprises Joint sector projects in fertilisers, chemicals, salt, castings, cells, cigarettes and T.V. sets, TANSI projects for mopeds and machine tools and SIPCOT complex at Hosur and Manamadurai — all to become operational during the year.

(14) **Education :** The expansion of the comprehensive schools programme and the launching of the Tamil Nadu Technological University which the UGC has approved.

(15) **Health :** Intensifying the family planning programme and adding 12 bed wards for ex-servicemen in 16 taluk hospitals.

(16) **Harijan Welfare :** The Harijan Housing Corporation will complete the construction of 15,000 houses begun in 1974—75 and also complete the work on building of 100 Harijan hostels and 50 Backward Class hostels.

WHY IS RICE SO POPULAR? NOT A GRAIN TO BE DESPISED

Answer Lies In Easy Digestibility And Protein Quality

——:o:——

Processing Research in Tamilnadu holds out promises to World's Rice eating Population

By
Dr. V. Subrahmanyan,
Paddy Processing Research Centre,
Tiruvarur

The unprecedented failure of the North East Monsoon in Tamil Nadu and other parts of South India has created a condition of scarcity in regard to food grains and particularly that of rice. While our immediate interest should be in speedy relief to the people, the situation should also be regarded as a warning in respect of certain trends which may get aggravated in the years to come. An intense programme of multi-pronged approach would be required if similar and, possibly a worse situation in the foreseeable future, is to be averted.

Over 90% of the world's rice is produced in the Countries of Asia and the Far East, which contain more than half the population and where it is also consumed as the chief staple food grain. The per capita consumption is, however, variable, being one of the highest (14 ounces) in India—and particularly in South India—as compared with several of the Far Eastern countries where the consumption (6 ounces or less) is at a much lower level. This is chiefly due to the inadequacy of other forms of food and certain dietary patterns which have led to increased consumption of rice in many parts of India. In the Far Eastern countries—where there is practically no vegetarianism —even the low income groups get some pork or fish, whereas, in South India, the bulk of the diet, for a large section of the people, has to come only from rice, with small additions of pulses and vegetables. The majority of non-vegetarians in India cannot afford the price of meat, fish or eggs and eat them only occasionally.

Paddy Processing Research Centre :

Paddy Processing Research Centre functioning at Tiruvarur in Thanjavur District has made a break through in research activities like putting into effective mechanical units to the existing hulling units to separate the function of dehusking from polishing and introduction of machines for grading of dehusked paddy before polishing. This Research Centre has made discoveries in the fields of ripening and drying of paddy through application of spraying salt solution over the crop, and by extract oil from bran are the major research works done by this centre. Implementation of this researches fetch huge amount of profit and many private people modified their rice mills really find it successful. Eight of whom were already on the line and another eight sought the advise of the research centre for similar modification.

High Priority inspite of low nutritive value

As judged by nutritional standards, rice is a grain of low value and contains about 75% starch and only 6—7% protein in most of the popular commercial varieties. Some varieties like ADT-27 and Karuna contain more protein (11—12%), but their production is relatively small. Consumers preference has always been for other varieties. The grain is deficient in minerals and, particularly, in calcium (10 mg. in 100 gms.) which is very low. The bulk of the vitamins and a large part of the oil present in the grain are removed during polishing and only parboiled rice generally contains the minimum required quantity of Vitamin B1.

Notwithstanding all the nutritional deficiencies, rice is a highly valued and now, an over-priced grain because of its bland taste and easy digestibility. The grain absorbs 3—4 times its weight of water during cooking and swells correspondingly in size. When it passes into the stomach, it absorbs a further quantity of water, bursts and liquifies in a condition which can be easily converted into glucose and absorbed in the blood. As compared with other grains, its digestibility is very quick and it becomes an easy source of heat energy which is necessary for life activity. To the consumer, the rice diet provides a sense of satisfaction, without prolonged heaviness. It is this feature which is an important cause of its great popularity—to such an extent that it has largely displaced other grains —chiefly millets—in Tamil Nadu and other areas in respect of consumer preference. This has resulted in greater demand for rice than could be accounted by mere increase in the traditional rice eating sections of the population.

Strangely enough, experimental animals (*eg.*, albino rats) do not breed well on what is commonly known as the poor South Indian rice diet. They do not easily gestate or lactate on such a diet and the mothers often eat up the young ones. The fertility of the human being does not seem however to be affected by such a diet. The rice eating population of India, is increasing at a fast rate.

Though present in small quantities, the rice protein is superior in quality to that present in wheat and several other grains ; but inferior to that present in milk, eggs, meat or fish. Its deficiencies in amino acids (particularly that of lysine) is made up by pulses, the consumption of which is rather low in South India. The vitamins and some of the protein are better retained by underpolishing ; but this affects the keeping quality of the grain and the consumer preference has always been for a well-polished grain. The loss of vitamins is heaviest in the case of raw rice, especially when the gurel is drained out as is the practice in most of the rice-eating areas in India. Though the incidence of frank cases of beri-beri has lately come down, there are several other manifestations which require massive doses of Vitamin B1, which fortunately, is now available in synthetic form.

The loss of food material from rice as gruel is heavy in the case of raw rice, especially when it is derived from a freshly harvested grain (10—12 %). This loss is not allowed in the Far Eastern countries where no gruel is drained. There is less gruel loss when parboiled rice is cooked, but even then it may be 5—6%.

The discovery of Vitamin B1 (thiamine) came from studies on rice and the earlier production was exclusively from rice polishings. The rice germ, in particular, is one of the richest natural sources of this vitamin and contains about 60 times as much as polished rice (6—7 mg. in 100 gms.). It is also very rich (35%) in protein and oil 32—35%). The outer layer of the grain which is removed or bran also contains 20—35% or more of oil (depending on variety), besides about 25 times as much of Vitamin B1 as rice. The bran contains however a high percentage of phytin which is difficult to digest. The presence of the bran layer affects the cooking and the swelling property of rice. It is now mostly removed and the germ is also completely eliminated during polishing. The consumer preference has always been in favour of ease of cooking and digestion, not only in India, but also in other parts of the World.

The calcium requirement of man was once estimated to be as high as 1 gram a day ; but later reduced to about 500 mg. Even the latter cannot be met by the average rice diet unless it is supplemented with milk which contains 100—120 mg. in 100 ml. or fish. Vegetables do provide some calcium, but they have to be consumed in quite large quantities to meet the daily needs. They are mostly made up of water and they have become very costly.

Some simple methods of supplementing calcium to the rice diet :

About 25 years ago, it was reported that replacement of rice to the extent of 25% by tapioca flour leads to better growth (20—25%) in experimental animals and also growing children than an exclusive rice diet. This was first viewed with great scepticism because tapioca contains even less protein than rice. The findings were however later confirmed and traced to the relatively higher calcium content (60—70 mg. in 100 g.) of tapioca flour. This also showed that deficiency of calcium in the rice diet is a biggest limiting factor to growth than protein.

In spite of the demonstration of its value in nutrition, direct incorporation of calcium salts (hydrogen phosphate, gluconate, lactate etc.) or products like **Creta preparata** with products like wheat atta or rice diets have not found favour with consumers because of their tendency to constipate or retard digestion. The future advance would appear to be through use in other natural forms which could be incorporated with the entire mass of food.

In this connection, it would be pertinent to draw attention to the high concentration (1%) of calcium in the skin of the millet (ragi or Kezhvaragu). Ragi skin is highly fibrous and hence difficult to digest; but the calcium present in it is easily extractable. Ragi starch, as obtained by wet griding and sieving, contains a fair amount of calcium and hence its popularity as a weaning food. There should be better methods of extracting calcium from ragi skin and then concentrating it in an acceptable form for use as a supplement to the rice diet.

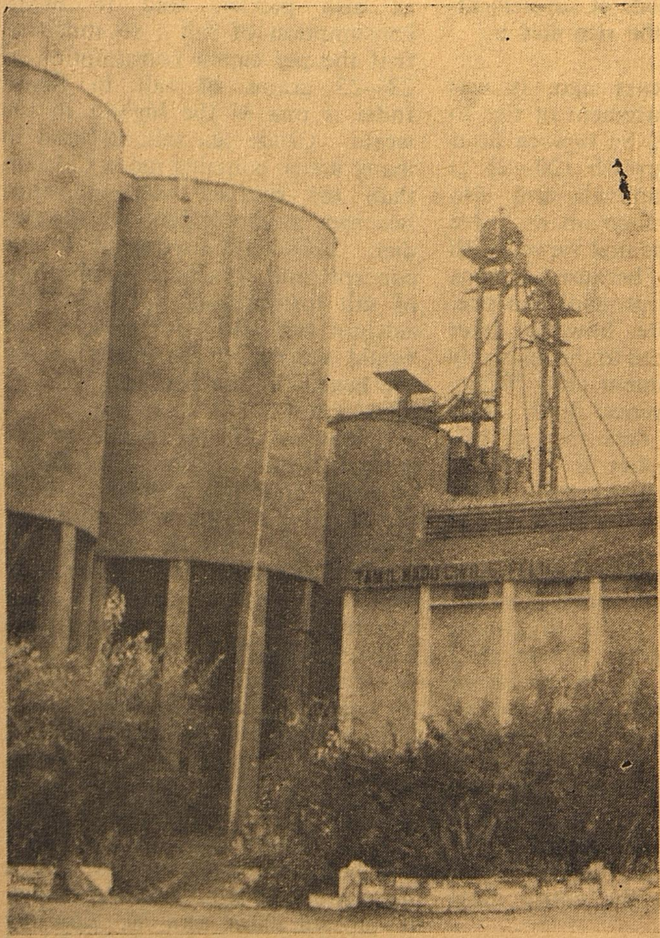
Additives like Tamarind, Chilli and Salt lead to increased consumption of rice :

An important factor which assists in the acceptability, increased consumption and easy digestion of the South Indian rice diet is the type of additive that goes with it. It has been found that the combination of tamarind, chilli and salt, as used in Sambar, Rasam, Chutney and such other preparations, helps in the consumption of rice to the extent of 50% or more than would otherwise be possible. Such additives, as also pickles, lead to heavy consumption of salt ; so much so that the per capita consumption of 22—25 grams of salt in South India is one of the highest in the world. Crude sea salt, as used in many areas, contains more Calcium than the purified salt and thus becomes a supplement to the rice diet. This led subsequently to the concept and practical application of salt fortification, not only with calcium but also with iron, which would deserve to be extended for the benefit of the people.

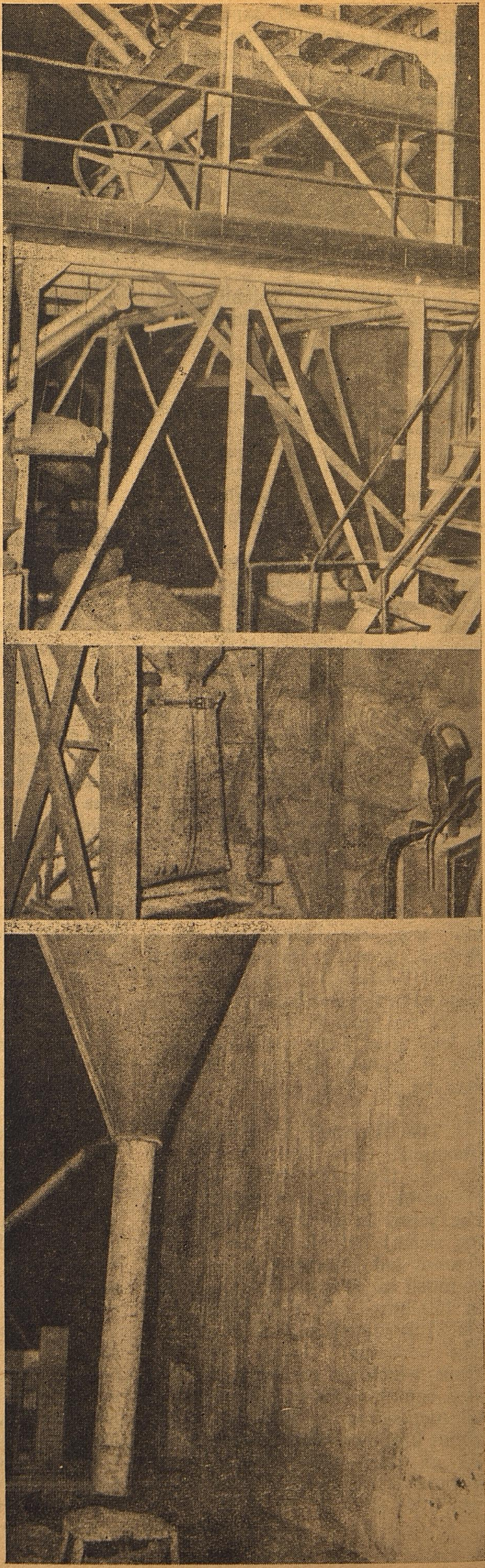
It is not difficult to give up rice when better and more varied forms of easily digestible nutritious foods are available as in Europe or America. Many of the Indians from rice eating homes have done very well on non-rice diets in other countries. At the same time, it will be very difficult for the average rice eater to quickly adapt himself to coarse grains which are more difficult to digest and make one feel heavy and lethargic, especially when one is in a sendantary occupation. The rice eater however gets easily adapted to non-fibrous starchy foods and hence the popularity of wheat suji (rava) and flour in South India. If tapioca flour can be carefully prepared and preserved, it should also find easy acceptance. A highly popular corn product at one time was American flour which was predominantly corn starch. Corn grits can be processed to cook in the same way as rice. Programmes are already afoot for production of corn suji and corn flour so as to be acceptable to rice eaters.

TAMILNADU LEAPS FORWARD IN PROCESSING RICE WITHOUT SUPPRESSING ITS NUTRITIONAL CONTENT

MODERN RICE MILL AT THIRUVARUR IS A WORKING PROOF



Giant size prestressed Concrete silos mounted on Concrete pillars to support the same is really a wonderful sight to look at in Thiruvarur Modern Rice Mill. The whole process of dehusking, grading, polishing, seperating silthy items from rice all done by machines without using man power. Photograph shows polished unbroken rice received at one end whereas bran and broken rice received at the other end respectively.



Overpopulation and risk of dwindling surplus from Delta Areas :

It will not be easy for the rice eater—especially in delta areas — to give up his favourite grain. At the same time, the present trends are rather discourging. The district of Thanjavur and the neighbouring areas in the Cauvery delta now constitute the most intensive rice growing area in the whole country. In addition to the Inter-State differences in respect of the supply of water for this area, there is also the threat of large increase in population, partly through migration from other areas, but to a much larger extent through large increase in population, especially among the lower income groups, in the rural areas. This is being encouraged, to a considerable extent, through ideologies which hold out strength in numbers as the means to gain political power. The people are easily misled by such advice and do not realize the consequences. **Unless there is a large increase in the yield from the available area, it is not difficult to foresee that the 'granary' of Tamil Nadu will soon have very little rice to export to other areas, even within the same State. This would appear to be a highly pessimistic outlook ; but posterity will not thank us if we do not take note of the present trends and make our future plans to meet the consequences.**

Even during the present century, the world has passed through many criticial situations ; but timely discoveries in the field of science and technology have, so far, helped to overcome them. The threatened shortage of nitrogenous fertilisers was eliminated by fixation of atmospheric nitrogen. Later, when low yields, crop lodging, diseases and pests became menacing, other discoveries came with the introduction of high yielding dwarf varieties and various methods of overcoming diseases and pests. There are still many outstanding problems especially in the case of rice. One of the foremost among these will be a better understanding of the significance of its great need for water. The only thing which we know at the present time is its enormous capacity for absorbing and utilising silicon which has to be drawn from soil solution. There should also be other features the understanding of which may eventually lead to practical application.

Need to apply all known methods for meeting growing needs :

It has already been demonstrated that, under favourable conditions, even the present high yielding varieties can yield 4—5 tonnes per acre. In actual practice, the average yield for a single crop is hardly 1.0—1.5 tonnes though individual progressive farmers have achieved better results. We know some of the causes of the relatively low yields in some of the areas—such as poor drainage, inadequate understanding of the fertiliser needs of each area, micronutrient requirements etc., but these cannot be corrected as fast as we would like. It is however obvious that the present harvesting methods leave large plant residues which are not easily broken down and which would produce adverse effects on the subsequent crops. This is particularly seen in the double cropping areas, where one crop (Thaladi) quickly succeeds the previous crop (Kuruvai). In East Thanjavur, for instance, there is distinct increase in the ferrous iron content, which is not only injurious but also suggestive of poor aeration of the soil and incomplete oxidation of organic matter.

Better performing varieties are being evolved year after year. There is a limit, however, to what we can attain with such varieties unless the other conditions are also taken good care of. One direction where we can achieve significant improvement is the study of the factors affecting the proportion of grain to straw and those which lead to the occurrence of high percentages of chaff and immature grains in the harvested product.

There is presently a programme for raising a Summer Crop in Tamil Nadu. In conjunction with this, there would also be a case for making use of canal and tank beds for at any rate, the raising of some vegetable crops.

Prevention of Losses :

The study of pre- and post-harvest technology is a comparatively new line ; but it has already yielded fruitful results. It has been found that the spraying of a variety of chemicals on the ears of mature paddy can speed up ripening which normally takes 10—12 days. In the case of the wet season paddy, a salt spray can produce the ripening changes in a few hours and reduce the moisture content of the grain by 7—8% within 24—48 hours depending on the season. In many areas, this would facilitate the harvesting and the drying of the grain before the onset of the rains ; allow the soil some rest and help in the planting of the next crop. Field losses through shedding, birds and rodents are reduced. An increase in yield of at least 5—8% can be obtained, though under some conditions an extra yield of even 25% have been obtained. More advance in this line is required to simplify and perfect this technique for routine practice.

There is presently a loss of 5—8% in the weight of the rice kernel—besides the risk of heating, discolouration, sprouting and mould growth when paddy has to be harvested at a moisture level of 20—25%, but could not be easily dried. Mechanical drying with furnace oil as the fuel has become very expensive and, in any case, it can deal with only a small part of the production. Methods of husk-fired drying have been developed, but they have yet to be standardised for large-scale application. Chemical treatments have been found to be moderately effective and among these the admixture of dry salt at 5—6% on the weight of paddy has been useful. Salt withdraws excess water from paddy without entering into the rice kernel. If the excess water is drained out and the paddy is given adequate aeration, all the spoilage changes are arrested. This method has to be improved upon so as to make it acceptable to all sections of users. Further research leading to the finding of a simple treatment which will leave no residue is still needed.

Importance of Parboiling :

The theoretical yield of polished rice from mature paddy would be of the order of about 73%. Because of the admixture of chaff, immature grains, soil, grit and other foreign matter, the current out-turn is of the order of only 61—64% in the case of raw milled paddy from even

hard varieties. In the case of dry season crop, the out-turn of rice from the parboiled grain is 67—68%; but in the case of wet season paddy, the out-turn of parboiled rice may be only 62—64%. The technique of parboiling, which is a discovery of India gives about 4% more out-turn than would be possible if the grain is milled raw. Production and consumption of parboiled rice is still favoured only in some parts of the country ; but in the long-range interests of the country and also better health of the people its production should be further extended.

Increased out-turn through better methods of processing and milling :

The main objection from a section of consumers to parboiled rice is on account of its smell as caused by formentative changes during the soaking of paddy. This problem has however now been solved and we have simple methods of treating the soak water so as to eliminate the smell. A more important benefit from such a treatment is the reduction in the loss of rice material into the soak water. As the result of this, it is possible to obtain 1.5—2.00% more yield of parboiled rice than has so far been possible.

There is presently a loss of 4—6% or more through the use of hullers for milling raw paddy. The loss is through fine brokens and powdering of rice. In the case of well parboiled rice the loss through the huller is only of the order of about 1%. Even then it has been found that the huller or under run disc sheller when used in removing the husk causes the loss of 30—40% of the oil present in the outer layers of rice along with the husk.

Scope for large production of rice oil :

Every quintal (100 kg.) of paddy contains on the average 2.5 kg. or more of a valuable, edible oil. The oil containing layers are present to the extent of 8—10% of the total weight of rice kernel (brown rice). During soaking and steaming, there is some movement of the oil towards the periphery of the grain so that the oil content of such layers increases to the extent of 30—35% depending on the variety. Under some conditions, it has been found possible to increase the oil content of the outer layers to even 40%. This knowledge has recently been successfully applied for the development of a simple technique which will enable the miller to produce bran with an oil content of 22—23% instead of the usual product which contains only 4—6% oil. The former is worth about Rs. 1,000/- per tonne whereas the usual type of huller bran fetches only Rs. 100—130 per tonne when it can be sold. The new approach which is highly profitable has already attracted the attention of millers who have adopted the improved method with substantial economic benefit. **This advance has been a major break-through as its extension will lead to the production of a few lakhs of tonnes of rice oil.** The oil as present on the grain has about the same composition as sesmum (gingelly) oil and is a high class edible oil. The bran has however to be heat treated so as to stabilise the oil. If such treatment is not given, the oil tends to split and becomes fit only for industrial use. Even the latter is of value for the manufacture of soaps and a variety of other products and has now a ready market . The ultimate advance will however have to be through production of edible oil for which there is an ever-growing demand.

Need for a major advance :

The above are well proven methods and they are already finding application at the hands of enlightened farmers and millers. In Tamil Nadu alone, the extension of application of such methods will add to the production of marketable rice to the extent of a few lakhs tonnes per annum and oil worth some crores of rupees. On a nation-wide basis, the benefits will be very considerable.

Considering however the present rate of increase in population, it is fairly certain that such benefits will all be quickly used up. What we need urgently is some means of increasing the average production by at least 30%. This will have to come through some branch or the other of science and technology. There should be a healthy competition among the votaries of different disciplines to achieve this result.

Even Mr. Norman Borlaug, whose contributions showed the way for the Green Revolution, had no illusions about the future. He foresaw the consequences if the present increase in population continues unchecked. In spite of all the increase in production, there will continue to be growing shortage and in a really bad year, as we have once in 10—12 years, there may be a major crisis, with all the attendant consequences. This is how leading thinkers in other parts of the World interpret the present trends in countries like India and it would be practical wisdom to take all the necessary steps in advance.

Alternative foods for rice eaters

Attention had already been drawn to the types of alternative foods that would meet the requirements of rice eaters. We have to shed our prejudices and aim at producing starchy foods of which we can produce more per acre than in the form of rice. In some parts of Thanjavur District tapioca is already being raised as a subsidiary crop and finds a ready market. This should be extended and the tuber should be available throughout the year. Other areas should also start producing tapioca. Coastal areas may also be well suited for it. Under highly favourable conditions, an yield of even 40 tonnes per acre can be obtained ; but even under pool soil conditions an yield of 5—6tonnes per acre may be expected. It is now possible to prevent the spoilage of the tuber by keeping it buried in moist soil. There should also be a large industry for the production of stable flour of edible quality. We can safely replace rice in our diet to the extent of 20—25% with tapioca in some form or the other. This will substantially reduce our dependance on rice and even help to stabilise, if not drastically bring down the price of rice. Exclusive dependance on rice is rather hazardous and there is a strong case for all sections of people starting to use tapioca, in some form or the other, as a subsidiary food. This should start from the higher placed and higher income groups, with an efficient machinery for popularising the use of the tuber as a supplement to the rice diet.

PREVENTION OF PHYSICAL HANDICAP

Thiru L. M. VISAGAM, I.A.S,

Childhood is the formative age of life, yet in India it is during childhood that countless thousands of children are blighted by different handicaps. It will be an intellectual deception to be content with the phenomenal progress in the areas of Science, Medicine and Surgery if we fail to reflect soberly how inadequate our knowledge is and so also our understanding of the causes and cures of the diseases causing such handicaps. Rightly therefore, the focus of this year's "World Day of the Disabled'' is on the prevention of the handicap.

The average Indian family is usually ignorant of the handicapping conditions and what can be done about them. Hence it neglects them with the result that such conditions assume, in due course, drastic dimensions aggravating the handicap and rendering restoration difficult. Added to ignorance, there is a deep-seated conviction that disabilities are but physical manifestations of the divine punishment for the sins committed' during the course of one's earlier births. Hence either the affected resists rehabilitation attempts or his family remains complacent, resigning itself to the inevitable turn of fate. A combination of such ignorance and superstition would point to the fact that if the potential crippling conditions are detected early and appropriate medical and surgical care given, a huge number of children could be saved of their handicap and restored to the ranks of normal children. In the case of those children who could not be restored to normalcy what with the medical and scientific advancement, it is not widely recognised that academic education and vocational training must go hand in hand with scientific physical care for periods of months or even years.

*The universe of the handicapped is composed of deaf, deaf-mute, feeble minded, lowered vitality, blind, orthopaedically crippled etc. The statistics of the handicapped in India are by no means precise but quite shocking all the same. **India is said to have the largest number of blind persons as compared to any other country but the estimates vary from one-fourth to one-fifth of the 1,40,00,000 blind persons in the world, with India having about 43,90,000 as estimated by the Ministry of Education in 1967. About one in every hundred in India said to be blind.** It is estimated that the deaf in India total about 20,00,000 of whom about 4,00,000 are children of School going age. The Central Statistical Organisation estimated the total number of orthopaedically handicapped in India in 1971 at 41,60,000.

Staggering as they are, these estimates point to the immensity of the problem and the need for measures to prevent it from escalating to unmanageable levels. In this perspective the preventive aspect would assume particular significance.

The incidence of blindness may be attributed to several reasons, the most important of which are Vitamin—A deficiency in children, ignorance of how to preserve the health of eyes, ill-advised self-medication of minor eye-diseases, disastrous treatment by quacks and failure to seek treatment for venereal infection. These reasons underline the importance of systematic eye examination of school children, followed by the education of pupil and parent, both in rural and in urban areas, concerning the nature and necessary treatment of eye diseases. Above all there is a crying need to ensure that our children do not suffer from Vitamin-A deficiency by giving them nutritious food.

While the estimated daily requirements of an adult range from 2,400 to 3,000 calories, the average Indian diet approximated only 1,750 calories besides lacking in essential vitamins, minerals fats and proteins. Poverty is perhaps the one great major factor that creates this gap between the actual and the minimum requirements. However, it drives home the need to feed the milling millions with a balanced diet to develop and maintain a healthy nation. In fact adequate nutrition will help to reduce the incidence of mental retardation through a decrease in the number of premature births and by providing infants a fair chance to achieve their potential for full development. Other reasons for mental retardation may be mal-nutrition of the mother during pregnancy, alcoholism, venerial diseases, deliveries undertaken by ignorant and untrained village midwives in unhygienic circumstances and the scourge of trauma and infection especially typhoid and eruptive fevers.

The causes of crippling may be hereditary or congenital or acquired.

HEREDITARY DEFECTS

A hereditary defect is one that passes down from generation to generation as a result of some disturbance in the working of inherent gene mechanism. The genes may be recessive or dominent according to its characteristics in determining a particular aspect of an individual's make up. Some of the abnormalities which are transmitted as dominant are : claw hands, spider hands, fused fingers, double joints, cleft palate, cleft lip etc. Abnormalities which are transmitted in a recessive mode are : Club foot, dislocation of hip etc. The hereditary defects could be prevented by judiciously avoiding marriages between the families which are known to carry any of these deformities.

The most common among the congenital defects are cleft plate, wobbed fingers, club foot, bow leg, missing bones and dislocation of the hip. Not all congenital malformations are hereditary. Most of them are caused by maternal infection of mal-nourishment, parental blood incompatiability etc. Many of the congenital abnormalities could be avoided by ensuring proper medical care and hygienic conditions.

Acquired defects may be due to birth injuries, pathological condition and diseases, accidents, nutrition deficiencies, consequence of war, poverty, etc.

Generally a cripple is made, not born. Archaic practices of an antiquated set of self-styled rural midwives, non-availability of im-

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*Source for statistics in this paragraph : "Services for the Handicapped in India" by Taylor and Taylor.

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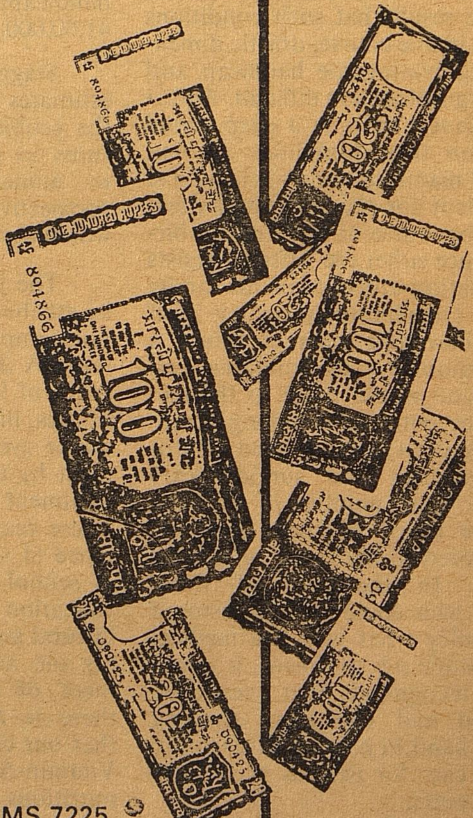

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TNSCB : 122/75

mediate maternity facilities and negligence of the illiterate and uneducated expectant mothers are some of the causes of crippling at birth. An intensive education of expectant mothers and sound obstetric care could go a long way in preventing crippling at birth. However, where a cripple is born, for instance with a club foot, the congenital defect can be removed or markedly reduced with a prompt treatment soon after birth.

Loss of limbs and vision and damages to nerve system and brain are caused by accidents also. Road accidents, industrial accidents and fire accidents are perhaps a few in the long list of different types of accidents that maim for life the normal individuals, besides causing death in many cases. Intensive accident prevention campaigns covering different potential areas of accidents, insistance on the use of goggles wherever the eyes are exposed to special hazards and wearing of helmets by two-wheel riders etc., may help reduce the incidence of crippling by accidents.

To sum up, most of the handicaps may be traced to the abysmal ignorance of the masses, the poverty surrounding them, the inadequacy or non-availability of proper medical care and increasing accidents of different kinds. It is perhaps a vicious circle we find ourselves in when we try to break-through these barriers that inevitably cause physical malformations. A general, wholesome improvement in our living conditions based on a comprehensive economic renaissance would go a long way in preventing the potential physical handicaps which in their totality could cripple the productivity of the nation as a whole. An increasing productivity could do great wonders in increasing the wealth of the nation. Let us therefore pledge ourselves in this " World Day of the Disabled " for the common cause of doing everything in our power to prevent the potential physical handicaps from manifesting themselves in the form of blindness, deafness and other physical malformations.

* * *

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MORE FUNDS FOR C. D. PROJECTS

TAMILNADU PLEA TO CENTRE

Speaking at the All India Conference of State Ministers of Community Development in Delhi on 8-5-75 the Tamil Nadu Minister for Local Administration Thiru Mannai P. Narayanaswamy demanded more financial Assistance from the Centre for the Special Programmes under Community Development to help all the needy and poorer sections of Community. The Union Minister for Agriculture, Thiru Jagjivan Ram presided.

Hon'ble Minister Thiru Mannai P. Narayanaswamy said : " I am glad, the meeting of officers has made a number of good recommendations. I congratulate them. You have mentioned the need for itnegrated rural development. Our leader Late Perarignar Anna in fact mentioned this as the most important objective of our Government. Following his advice we have been able to bring about integrated rural development through the agency of Panchayats. Top priority was given to agricultural production and it has yielded very good results. The yield has gone up by 2.5 times. We had not neglected other areas either.

During the last 25 years we have achieved much under the community development programme through the agencies of the Panchayat Unions. There was considerable progress in other fields like education, communication, drinking water supply, family planning etc. We spend about Rs. 100 crores annually through our Panchayat institutions for rural development programmes. This is 25% of our State budget. 20% of this expenditure on works programme is for the benefit of Harijans. Still we feel that this is not enough.

We would like to entrust more and more development work to the Panchayat Unions. At the same time we know that some programmes will have to be taken in and executed at the District level. This need not be, by the existing agencies. This is why we have decided to form the District Development Corporation, in one district, to start with. We want to mobilise resources with the help of this Corporation. We hope, that the Corporation will execute schemes given to it well. This is only a pilot programme and we are eager to make it a success. Our District Development Corporation will not supplant the Panchayat Union set up. It will supplement.

We have to prepare special programmes to help the needy and the poor sections of the community. The Government of India must help the States with finances so that these special programmes can be implemented with vigour. In the past, we have had a number of special programmes like the Rural Man Power Scheme, the Drought Prone Area Scheme, the Tribal Development Block Scheme, the Small Farmers Development Agency and the Marginal Farmers Agricultural Loan Scheme. We know from experience that all these special programmes have been very useful. I would like to urge upon the Government of India to provide more money for all these schemes. In this connection, I am told that the money set apart for rural development by the Government of India is only about 3% of its total budget. You will agree with me, that this is a very small amount. I am afraid lack of finance would be one of the biggest handicaps in our way. We must now press the Government of India to allot more funds for rural development so that special programmes can be implemented."

* * *

THE TAMIL NADU CO-OPERATIVE HOUSING SOCIETY LIMITED, NO. X-406. VEPERY, MADRAS-600 007.

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Authorised Share Capital	—	Rs. 5 Crores
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Long term loans for construction of new houses, additions and improvements etc., repayable in twenty years are granted to individuals through affiliated societies. Please contact nearby Primary Housing or Building Society for information.

Fixed Deposits also accepted.

(Repayable of Principal and Interest payment guaranteed by Government of Tamil Nadu.)

		MAXIMUM INDIVIDUAL LOAN
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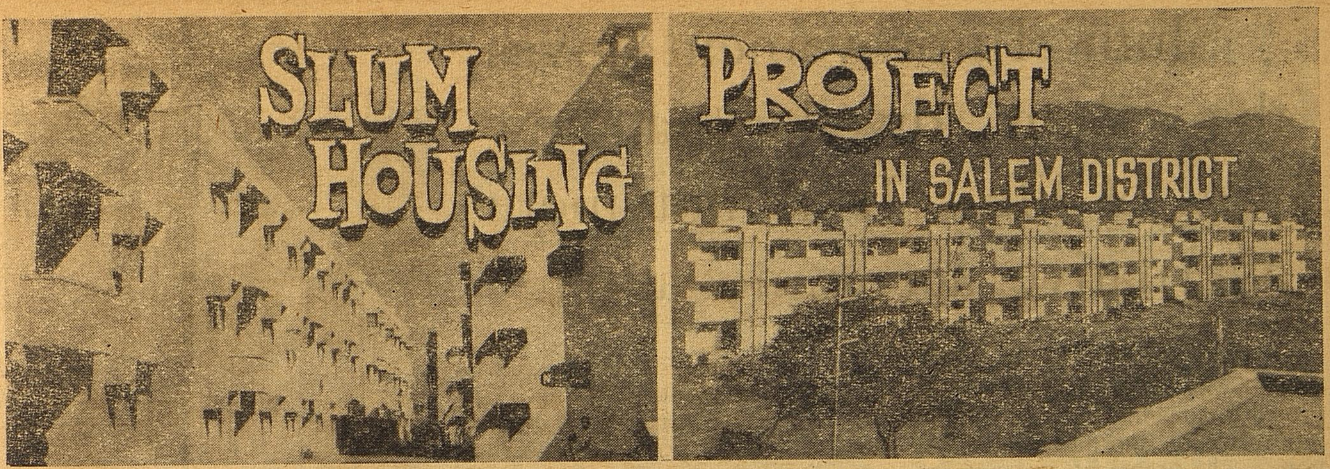
2. —do— (Through Rural Housing Societies)	—	Rs. 10,000

P. K. PATHMANATHAN, B.A., H.D.C.,
Joint Registrar / Secretary.



1228 Tenements and 533 Developed Plots Allotted for Slum Dwellers in Salem Town

Slum Improvement Scheme in Salem Town was undertaken by the erstwhile Coimbatore Housing Unit in the year 1965. After the biarcation of Coimbatore Housing Unit and the formation of the Salem Housing Unit the work on Slum Improvement was taken up by the Salem Housing Unit on a large scale. The clearance and rehabilitation of Slum Dwellers in Salem Town in about 12 places has since been completed and till date 533 Open Developed Plots with all basic amenities have been allotted to the slum dwellers at Erumapalayam, Ponnammapet and Court Road in Salem Town. The construction of tenements in multi-storeyed blocks was also undertaken by the Salem Housing Unit and till date 1,228 tenements have been completed and allotted to the Slum Dwellers in places called Narayanaswamypuram, Nalukal Mandapam, Annathanapatti, Nehru Nagar, Anna Nagar, Gandhi Nagar and Sandaipet in Salem Town. The cost of construction of tenements which have been completed and allotted to the slum dwellers is about Rs. 120 lakhs. Plinth area of about 320 sq. ft. is provided for each family with living room, a kitchen, a bath, a flushout latrine and a rear utility verandah. The tenements are provided with water supply, even to the top most floor.

Highly Subsidised Rent

The tenements have also been electrified. The rent per tenement per month which is highly subsidised is only Rs. 15/-. To start with an area where a slum is existing is selected for clearance and a social survey is conducted by the Housing Board staff. The Social Survey includes collection of statistics from the head of the family about his profession, monthly income, number of members of the family and the extent of the place in which he is living etc and the entire family is photographed. Identity cards with the photographs pasted to the card will be issued to the head of the family. Before construction is taken up in the area, the Revenue Department or the Municipality will be requested to hand over the land for which the cost will be paid by the Tamil Nadu Government. Then the slum dwellers will be shifted to nearby alternate area to put up their huts till the completion of the construction. After the tenements are completed and ready for occupation, the slum dwellers will be shifted to the new tenements after collecting 2 months deposit and after verification of the identity cards issued to them.

In Allikuttai Eri in Salem Town, construction of 360 tenements is in progress and is expected to be completed by the end of September, 75. The cost of this project will be about Rs. 33.00 lakhs. Also in an area called Gunduchetty Eri 216 tenements are proposed. The cost of this project is about Rs. 18.00 lakhs. This is also expected to be completed by September, 75.

The New Schemes

Two new schemes in an area called Andipatti Eri and Sandaipet will be taken up for construction this year and 528 tenements at a cost of about Rs. 40.00 lakhs and 75 tenements at a cost of about Rs. 8.00 lakhs in Andipatti Eri and Sandaipet respectively.

Slum Improvement gives the slum dwellers a new way of life. It is not mere alternative accommodation.

Earst while slum dwellers get a chance to lead a better life.

" While alternative accommodation will nessarily have to be provided, something has to be done meanwhile to improve slum conditions. The argument that any improvement might lead to their perpetuation is not one that we can accept. Improving them means better water supply, lighting, latrine, drains and generally greater cleanliness. It is clear that it can only be achieved with the co-operation of the people concerned. This means that every attempt should be made not only to interest these people but to educate them and involve them in the improved activities." " These, in short, were the utterrances of Prime Minister Jawaharlal Nehru, that go to epitomise the future course of action with regard to the improvement of the lot of slum dwellers.

What is a slum ?

A slum is a residential area where the houses and conditions of life are of a squalid and wretched character and which has become a social liability to the community. When we speak of a slum, the picture that comes to our mind is a mass of more or less non-descript individual houses, tenements, stables, dilapidated shops and absence of paint, accumulation of dirt, and rubbish. The picture is scented with a damp, mouldy odour intermingled with the smell of decaying matter. We think of the slum as the abode of half starved filthly clothed children of diseased and crippled individuals ; a place of poverty, wretchedness, ignorance and vice. We think of it as a recession from the normal standards of a sound society.

A majority of the slum houses are huts. They are constructed of cheap materials and consist of one room only which serves all purposes. The huts are flimsy structures built with mud and thatch. They are not permanent and are liable to destruction by fire and heavy rain. During summer it will be unbearbly hot. The roof made of palm leaves is easily combustible. During the monsoon, the mud walls crumble and collapse. It has no aperture for light or air. The doorway is covered by a thatti. The huts are built in very close proximity, sometimes back to back or are separated only by the narrowest alleys with the result there is overcrowding of the very worst kind.

Causes for Migration

The deterioration in the economic conditions in the villages has set up a constant drift of unemployed labour to towns in search of employment. Agriculture has not been sufficiently remunerative and cottage industry has not been extensive in rural areas. Industrial concerns in the cities and towns also attract labour from rural areas. When the richer classes move to the cities or towns, there is demand for labour for domestic and auxilliary services. All these factors cause the migration of the population from rural areas to cities and towns. These people who are homeless erect their shelters with thatched roofs at the minimum cost in a haphazard manner without proper alignment of streets and other basic amenities such as water-supply and drainage.

Deserve better consideration

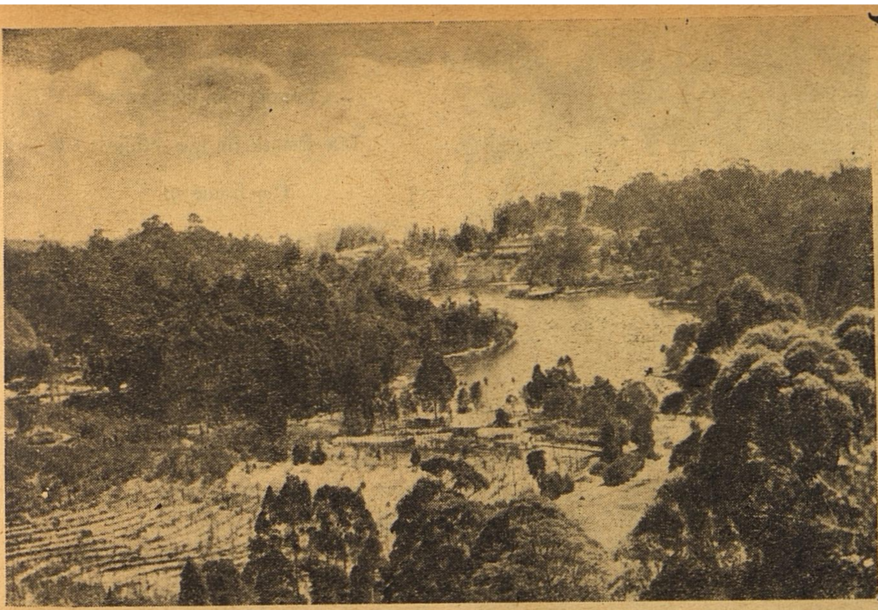
The slum dwellers who have somehow or other managed to find a site whereon a low mud wall and a coconut leaf roof put over it to provide them a place to cook some food and where they could bundle themselves during the nights, deserve better consideration than they get. The slum dwellers are an essential element to town life. They are as necessary as any other section of the population. They work as hard as domestic and other servants. These miserable people living in the slums whose services too are essential, deserve better accommodation. The housing of these people should be a concern for their employees.

The men and women cannot be expected to attend to daily duties without a lodging place to sleep in during nights and a place to cook their food. The place of work should not be too far from where they are asked to live. They cannot be expected to be able to meet conveyance expenses nor can their services be rendered properly and in time if they live at some distant places.

These slums have grown on sites wholly unfit for human habitation and without the assistance either of their employers or any welfare department. The people should be grateful to them for the courage and spirit of self-help displayed by them in finding their own habitation.

Slum Clearance Board

To provide better housing facilities to these slum dwellers and to improve the slums and prevent their future growth, the Slum Clearance Board was set up. The Board, the first of its kind in India has taken up its work in right earnest and has been doing commendable service. —R L.B.



GOVERNMENT TEA PROJECT IN THE NILGIRIS

The Nilgiris District has always had the reputation of being one of the finest tea growing tracts in the world. The whole district enjoys a climate that is ideal for the growing of tea. The Gudalur Taluk in the plains, even though it has elevations ranging from 2,500 ft. to 4,000 ft. is swept by both the monsoons with an annual precipitation of about 130 ins. rain a year. The plateau taluks of Ootacamund and Coonoor vary in elevation from 4,C00 ft. to 8,000 ft. which compensate for the lower rainfall of about 80 ins. a year, namely from the North-East Monsoon. They are capable of supporting some of the finest high grown teas in the world, which fetch prices upto Rs. 15/- per kilogram.

Under the Shastri-Srimavo Agreement, 5,25,000 repatriates of Indian origin are expected to come to this country from Sri Lanka over the couse of the next fifteen years. This poses an unpleasant and difficult problem of rehabilitating them. As most of the repatriates are from Tamil Nadu, this Government is keenly interested in finding ways and means of helping these repatriates to become useful members of the society. As most of the repatriates are working in tea plantations in Sri Lanka it was felt that they could be usefully resettled in similar plantations in Tamil Nadu.

In November 1967, the Tamil Nadu Government appointed a Special Officer belonging to the Madras Forest Department to draw up a scheme for raising tea, coffee, rubber and other plantation crops in suitable areas in the forests of Madras State for rehabilitation of repatriates. The Special Officer, after a rapid reconnaissance survey reported that about 9,000 acres would be suitable for raising tea plantations in the forest areas of the Nilgiris. Based on his report, a pilot scheme for planting tea was sanctioned in February 1968 and in June 1969, 25 acres were planted with tea in Cherambad locality of Gudalur Taluk using seedlings of Assam Jats and V.P. Cuttings of A.T.K. 1 Clone.

In February 1969, the Government of Tamil Nadu appointed me as Deputy Conservator of Forests to draw up a Master Plan for raising 3,750 acres of tea in the Nilgiris over a period of 9 years. The reduction of target was thought necessary in order to reduce the clearance of forests in the district to the minimum and to have a project capable of being implemented successfully in view of the competetive nature of the trade. I drew up a Master Plan by June 1969 which is now being implemented. The main features of the Plan are the opening of five Tea Divisions—three in the Gudalur Taluk covering an area of 2,400 acres and two in the Coonoor Taluk covering an area of 1,350 acres. It is not the intention in executing this project that the forests in the Nilgiris should be denuded. Care has been taken to see that the felling of 3,750 acres of jungle growth will not affect the socioeconomic conditions in the District.

By

Thiru T. ACHAYA, I.F.S.,
Conservator of Forests,
Government Tea Project,
Coonoor.

To avoid affecting the water supply, particularly in the plateau, the following safeguards have been taken in selecting areas for tea :—

1. Bulk of the area selected lies in the Nilgiris Wynaad portion of Gudalur Taluk on the plains and only the balance has been selected on the plateau.
2. In selecting areas on the plateau, care has been taken to select only small areas of 100 to 200 acres in each Reserved Forest, leaving the balance portion for moisture conservation purposes.
3. Wherever felling is carried out, all care will be taken to protect streams, tanks and water supply sources as conservation of all available water is necessary even in the interests of the Tea Estate.
4. Tea being a fast-growing species which at close pacement covers the soil adequately in 2 or 3 years time, the possibility of soil wash is reduced to the minimum.
5. Necessary soil conservation measures will be undertaken in the areas clearfelled for Tea.

Any fears therefore that the Tea Project will result in large-scale destruction of forests and affect water supply position of the district can be safely laid to rest.

As already stated, the Tea Project was started in 1969 with Tea Planting over 25 acres. The work was gradually expanded and 5 Divisions were formed with the overall control of a Conservator of Forests. Labour lines of 5 houses each confirming to the Plantations Labour Act, 1951 are being built. Roads and Water Supply have been laid out. The area planted with Tea from the inception are as follows :—

A Panoramic View of a

Tea Estate in the Nilgiris.

The home of

India's most prized tea.

Year	Name of Division		Hects.	Total (Hects.)
1969—70	Cherambadi Tea Division	..		
1970—71	Cherambadi Tea Division	..	26.10	
	Cherangode Tea Division	..	11.59	39.69
	Coonoor Tea Division	..	2.00	
1971—72	Cherambadi Tea Division	..	38.57	
	Cherangode Tea Division	..	19.75	99.82
	Nelliyalam Tea Division	..	11.66	
	Coonoor Tea Division	..	18.10	
	Kotagiri Tea Division	..	11.74	
1972—73	Cherambadi Tea Division	..	41.47	
	Cherangode Tea Division	..	38.00	
	Nelliyalam Tea Division	..	42.85	204.98
	Coonoor Tea Division	..	40.66	
	Kotagiri Tea Division	..	42.00	
1973—74	Cherambadi Tea Division	..	40.47	
	Cherangode Tea Division	..	44.50	
	Nelliyalam Tea Division	..	44.75	202.12
	Coonoor Tea Division	..	30.40	
	Kotagiri Tea Division	..	42.00	
1974—75	Cherambadi Tea Division	..	41.47	
	Cherangode Tea Division	..	40.10	
	Nelliyalam Tea Division	..	53.00	185.37
	Coonoor Tea Division	..	11.80	
	Kotagiri Tea Division	..	39.00	
	Total	..	741.98	

As against 3,750 acres or 1,517.57 Hectares to be planted by 1978, an many as 741.98 hectares have been planted as above.

The Project on completion will be the biggest single Clonal Tea Plantation in India.

The expenditure incurred on this Project upto end of November 1974 from the inception is 234.81 lakhs. The earliest plantations have started yielding and so far 7,44,008 Kgs. of green leaves have been obtained netting a revenue of Rs. 5,35,793.16. The amenities to the labour have been given priority and all the labourers have been given the facilities as required under Labour Laws. So far 440 labour houses have been completed and provided with electricity.

The Project will be a model employer providing all facilities like schools, hospitals etc., in each Division.

The employment potential of the Project will be 1 person per acre or about 3,750 persons or 1975 families. The influx of repatriates has already started and so far 444 families have been settled, in addition to 92 persons being absorbed as Government servants.

This Project is expected to provide The Nilgiris with a capital assets of about Rs. 10 crores, which, when fully developed, will yield a net direct revenue of about Rs. one crore a year, not taking into account the returns in the form of Excise duties, Agricultural Income Tax, Foreign Exchange etc.

Manifold Activities of the Tamilnadu Poultry Development Corporation

There is a good scope for the development of poultry in the State of Tamil Nadu both from the point of view to improve the economic conditions of the people as well as for provision of nutritious food to the population.

The Government of Tamilnadu considered that an appropriate organization for the efficient implementation of the various development and commercial activities relating to poultry could be achieved by way of formation of an autonomous body, namely Poultry Development Corporation. Hence the Tamil Nadu Poultry Development Corporation Limited started functioning from 12—7—1973. The objects of the Corporation are :

(1) to promote, establish, improve develop aid counsel, finance, directly or indirectly, engage in production, processing and sale of poultry and poultry products and provide services and assistance of all kinds for the said purpose including capital, credit, means, resources technical and managerial services, advice and assistance either directly or indirectly of any other kind to those who are engaged in the poultry production and to such others who are engaged in poultry activities in whatever manner.

Apex Institution To do Research And Provide Assistance To Poultry Breeders

(2) to organise and assist production, processing, collection and marketing of poultry and poultry products and for this purpose to provide, acquire and operate land plant and equipments, vehicles and services of any description which are required for the purpose of fulfilment of the objects.

Manifold Activities of the Corporation:

To start with, all the activities of Animal Husbandry Development was handed over to this Corporation and thus it took over all the Poultry Extension Centres, Intensive Poultry Development Blocks, Poultry Production Centres, World Food Programme, Hatcheries and Feed Mixing Units.

The activities of the Corporation are twin fold namely extension and commercial.

Under extension, production of quality chicks and distribution of chicks to the various schemes and individual poultry breeders are being attended to. Moreover technical know-how regarding managemental aspects, nutrition and disease control in rearing of birds is being extended by the technical staff of this Corporation. Under commercial, preparation of balanced poultry feed through Feed Mixing Units of the Corporation and marketing of eggs, dressed meat and live birds are also undertaken.

At present there are 10 Poultry Extension Centres, 3 Hatcheries and Five Feed Mixing Units functioning under the control of the Corporation. In addition to this, this Corporation is engaged in implementing the other programmes like Poultry Development Activities of Small Farmers Development Agencies, Marginal Farmers and Agricultural Labourers, implementation of Half-a-Million Jobs Programme for educated unemployed graduates.

EXTENSION ACTIVITIES

Hatcheries

Under the extension side there are 3 Hatcheries at Kattupakkam in Chingleput District ; Hosur in Dharmapuri District and Kappalur in Madurai District. The hatcheries act as the base for the development activities. These hatcheries produce quality chicks to comply with the requirements of birds to all the 375 Panchayat Unions and all the Applied Nutrition Programmes apart from the requirements of public. Further it complies the requirements of day old chicks of all institutions functioning under the administrative control of the Animal Husbandry Department as well as under this Corporation.

Poultry Extension Centres

There are 10 Poultry Extension Centres functioning under the control of this Corporation. In all the 10 Poultry Extension Centres it is proposed to keep 15,000 chicks in each centre and these birds will be reared and distributed to various schemes.

COMMERCIAL

Poultry Feed

At the time of formation of Corporation there were 2 Feed Mixing Units, one at Madras and the other at Arasur in Coimbatore District. To meet the increasing demand of balanced poultry feed, 3 more Feed Mixing Units were started, one at T. Kallupatti in Madurai District, Tiruppur in Coimbatore and Kottapattu in Trichy District. It is further proposed to establish three more units, one at Acharapakkam in Chingleput District, one at Seshanchavadi in Salem District and other at Kappalur in Madurai District. The main aim of these units to distribute quality feed to the Small Farmers Development Agencies and Marginal Farmers and Agricultural Labourers of the concerned Districts and various Poultry Extension Centres individual poultry breeders, poultry breeders co-operative societies, Applied Nutrition Programme and Half-a-Million Jobs Programme. It is proposed to set up a laboratory to analyse the poultry feed to have quality control.

Poultry Products

The main poultry products that are marketed are, eggs, poultry meat and live birds. The eggs that are produced by individual poultry breeders are collected by the concerned co-operative societies. These eggs are procured by the Corporation vehicles on cash payment. Whenever the laying period of the bird is over, such birds are purchased and sold as live birds or as dressed meat. To sell the eggs in the city, 50 booths are located at various key points in Madras City. Eggs and meat are sold through the Super Markets in Madras and other towns. It is contemplated to have door delivery of eggs and meat through cycle boys. In addition, the eggs and meat are being sold by a mobile unit at different residential areas on fixed days. It is also proposed to popularise various dishes that are to be prepared from egg and poultry meat and sold in various important places. The eggs are sold to the various Government Hospitals throughout the State at the rate fixed by the Government.

Half-a-Million Jobs Programme

A scheme to finance the educated unemployed persons to start poultry farms for their livelihood was drawn by the Government of Tamil Nadu and given to Poultry Development Corporation for implementation, financed by Nationalised Banks.

The candidates are selected jointly by the Poultry Development Corporation and the Banks.

Selected candidates will be given training in poultry for a period of one month in the poultry farm.

Technical supervision will be extended by the Corporation.

Under this programme it is proposed to give employment opportunities for 500 educated unemployed. The aim of the scheme is not only to give employment opportunities to the youths but also to produce one lakh eggs per annum by each of 500 poultry units leading to the ultimate production of 500 lakhs of eggs per annum. In addition to the eggs, 2,25,000 birds per annum will be available for table. This programme will be implemented in selected Districts by linking of the Co-operative Organizations, 20 units of about 10,000 birds in one continuous are will be taken by up one Co-operative Society.

Each of the selected educated unemployed will be given training in poultry activities for a period of one month with adhoc allowance of Rs. 150/-.

Loan amount of 15,000 will be given towards construction of chick house, cost of equipments, birds, medicine, feed, etc., at the appropriate stages on the actual requirements for each of the beneficieries.

Future Programme

This Corporation is producing high yielding pure line—A number of hybrid strains are coming up and most of the breeders are aware of these hybrid strains, since the egg production of these hybrid strains are higher and withstand adverse conditions to certain extent, due to hybrid vigour the Tamil Nadu Poultry Development Corporation desires to start marketing of hybrid birds also. The hybrid chicks in private hatcheries are costly since number of private hatcheries are situated only outside Tamil Nadu, difficulties are experienced in fetching these birds from far off places. Therefore this Corporation has planned to start a franchaise hatchery.

In all the 3 hatcheries, increased production of quality chicks will be undertaken on a warfooting measure to meet the demands.

To cope up the increased demand of quality balanced poultry feed 3 more Feed Mixing Units in addition to the existing five feed mixing units will be started.

In all the existing feed mixing units, 1,450 M. Tonnes of feed per month will be produced and sold.

The marketing wing of this Corporation will sell a lakh of quality eggs per day. Further to meet the demands of the consumers, this Corporation will sell 6,000 birds for meat per month.

All the Poultry Extension Centre will make arrangements to sell 50,000 chicks each.

HINTS ON FEEDS AND FEEDING OF ANIMALS

by

DR. R. VENKATAKRISHNAN,
Professor of Animal Nutrition,
Madras Veterinary College.

In the past people feed the animals based on their experience and practices. Though the old methods were satisfactory generally, there were many cases of under feeding as well as over feeding leading to wastage of feeds. Scientists of Animal Nutrition formulated the feeding of animals on the basis of many experimental studies they made to assess the actual requirement for different classes of livestock and for different functions. Now it has become possible to select suitable feeds and formulate satisfactory returns. Such scientific feeding not only improved the method of feeding but also reduced the waste and cost.

Hints on the feeding of animals :

1. Liberal feeding : By this it is meant satisfactory feeding.

2. Individual feeding : Each animal is different. So the animal should be fed according to its requirements.

3. Proper balanced ration : All the required nutrients must be available in adequate amounts.

4. Palatable feeed : Though there is no specific taste for animals, the feed should not have any unpalatable taste and free from bad odour.

5. Avoid sudden changes : In the feeding of any animals, there should not be any abrupt change. Any change should be gradual.

6. Plenty of greens : All animals should be given liberal amounts of green fodder.

Feeds : The type of feeds used in the feeding varies according to different classes of animals. Generally the following feeds are used for animals.

(a) Oil cakes
(b) Oil seeds
(c) Bran
(d) Grains
(e) Grams
(f) Husk

In case of Cattle, horses, and sheep green as well as dry fodders are used. These are essential for these animals to satisfy their appetite.

Following green fodders and dry fodders are commonly used :—

I. Grasses (Photo 3)
   1. Para grass
   2. Napier grass
   3. Guinea grass
   4. Highbred Napier grass.

II. Dry Fodders :
   1. Hay
   2. Straw

A ration is the feed allowed for a given animal for a day. The food may be given at a time or in portion at intervals. The ration of an animal may be divided into two parts — one maintaining the body of the animal other for the purpose of production like milk egg and meat etc.

Balanced ration : A balanced ration is one which provides the essential nutrients like carbohydrate fat protein, and also minerals. Further there should be provision to supply vitamins in one form or other.

Some points to be considered in formulating a ration :

(1) First it should supply all the nutrients. This is normally done by using feeds like oil seeds, cakes, bran and grains.

(2) It should supply essential minerals like calcium phosphorous and other elements.

The feeds used in the ration contain certain amount of minerals. But under practical conditions, mineral mixtures are added in small quantities. 1 to 2 ounce of mineral mixture is added.

(3) Vitamins : In case of cattle and sheep there is no difficulty because they synthesise most of vitamins. To meet their vitamin requirements greens and hays will be suitable. Even one kg. of green grass will be sufficient to meet their vitamin A needs. But in case of pigs and poultry vitamin supplements should be added.

(4) Above all, the ration should satisfy the appetite. That is it should give the sense of satisfaction or fulfilment. In case of small animals pig or poultry, their usual feed will meet this demand. But in case of large animals like cattle, horse and also sheep, grasses hay or straw should be given.

* TIIC, having entered the golden era, rededicates itself still more for the service of the industry.

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Over 60 months.	10% p. a.

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Feeding of Cattle : As regards the feeding of cattle, our attention is mostly towards dairy animals, cows and buffaloes. These animals have economic importance.

When constructing ration for dairy animals, their milk production and the fat percentage will be taken into account, so that suitable feeds may be used to meet the requirements for milk production. In addition green grasses, paddy straw will form part of the ration to meet further requirements.

It is essential to add suitable mineral supplement and common salt.

This is the basis of feeding cattle and for that purpose any animal.

Ration for Cows :

1. Animal : Cow

Body weight—400 kg.
Yield — 8 kg. of milk with 4% fat.
Ground nut cake—1 kg.
Cotton seed—0.5 kg.
Grains — 0.5 kg.
Bengal gram husk—0.5 kg.
Wheat Bran—1.0 kg.
Grass—10 kg.
Straw—5 kg plus Mineral Mixture—2 ounce
Common salt—2 ounce

2. Animal : Buffalo

Body weight—450 kg.
Milk yield—10 kg.
Fat—8%

Ration :
Groundnut cake—2 kg.
Gram—0.5 kg.
Wheat bran—1.0 kg.
Husk—2.00 kg.
Grass—10 kg.
Straw—5 kg.

To avoid time and labour, concentrates can be mixed in bulk. This mixture can be fed in suitable amounts according to milk yield. In addition green grasses and any fodders like straw or hay to be fed.

An example for such mixture—
Groundnut cake—10 parts.
Rice Bran—10 parts.
Cotton seed—20 parts.
Broken grains—30 parts.
Gram middlings—30 parts.

One kg. of this mixture can be given for 3 kg. of milk production. Along with this about 10 kg. of grass and 4 to 5 kg. of paddy straw may be given.

No. 3: A bullock or dry cow Ration:

Ground nut cake—0.5 kg.
Husk—0.5 kg.
Guinea grass—10.0 kg.
Straw —6 kg.
Mineral Mixture—1 ounce
Salt—1 ounce

All the dairy animals should be fed well. Else, there will be drop in milk yield. The animal also will lose their condition.

Feeding of Calves :

The raising of calves starts even before its birth. If the mother cow is well fed and nourished, the calf will also be healthy. For any reason, if the mother was neglected and uncared for, the new born calf would be weak and ill nourished

Essential features in the feeding of calves :

The calves should receive colostrum for the first four days. Otherwise they will be subjected to several diseases and deficiencies. Afterwards they can be given whole milk. The quantity normally suitable is 1 kg. of milk for every 10 kg. of its body weight.

Following schedule may be followed with suitable alterations according to availability of milk or skim milk.

Age :

1—2 weeks—with mother.
2—3 weeks—whole milk at the prescribed quantity.
3—4 weks—3 quart of whole milk and 1 quart of gruel.
4—6 weeks—Gradually increase the quantity of gruel.
6—7 weeks—4 to 5 quarts of gruel.
8th week—Reduce the gruel to half quantity give some quantity of oil cakes bran mixture.
Good quality grass may be fed.
9th week onwards—Increase the concentrates and grass.

Suitable concentrate mixture which can be in the solid form or as gruel. When used as 1 part of mixture to be diluted with 3 to 4 parts of water.

Concentrate Mixture :

Maize—38 parts
Groundnut cake—40 parts
Wheat bran—12 parts
Tapioca flour—5 parts
Fish meal—3 parts
Mineral mixture—2 parts
Vitaminsupplement—0.6 gm/kg. (Rovimix.)
Yeast—2% level.

Young calves should be well cared and fed with adequate nutrients in order to grow into a good heifer or bull calf. To get a good heifer, attention should be paid to the feeding of calf from its birth onwards.

Feeding of sheep :

Good grazing is the important feature in the feeding of sheep. Following concentrate mixture will be suitable for general feeding of sheep.

Wheat bran—1 part.
Gram crushed—2 parts.

0.5 kg. of concentrate mixture per head of sheep. In addition to this, there should be good grazing facilities.

When grazing facility is not satisfactory, then the following concentrate mixture may be suitable :—

Grains — 6 parts
Wheat Bran— 3 parts
G.N. Cake—1 part

0.5 to 1 kg. of mixture and 2 kg. grass will meet the requirement of a sheep.

Feeding of pigs :

Pigs require concentrates and feeds of easily digestible nature. The main purpose of rearing pigs are for fattening and slaughter.

Ration for fattening :

Grain Middlings—30 parts
Maize — 60 parts
Ground nut cake— 5 parts
Fish meal—5 parts.
Mineral mixture—1 part

With suitable supplement for vitamins. About 3 kg. of this mixture to be given to an animal.

Feeding of horses :

Horses are mainly kept for drought purposes. They require for hard work.

For a Horse doing medium work like cart pulling :
Horse gram—2 kg.
Wheat bran—0.5 kg.
Grass—10 kg.

CONSTRUCTION OF CATTLE SHED WITH LOW COST MATERIALS

By

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The dairy cattle are provided with houses to protect them against rough weather as hot summer, cold winds and rains, to give them a place for taking rest and to give them facilities for having the feed and water without disturbances. These houses must be well designed with definite objectives to meet the specific needs of the dairy cattle. The objective designing has a pronounced effect on the health and production of animals and the quantity of products produced. It has been proved by experiment that dairy cattle respond very well, with increased production, to well designed houses, better feeding and management. A thorough knowledge about the physical, physiological and psychological needs of the dairy cow is required for designing an ideal house. Further a knowledge about the engineering aspect of the house as the choice of building materials, cost and principles of construction is also necessary to provide a good building.

The important designing principles followed in housing dairy cattle are as given below :

Designed to have good environmental control and to provide comfort :

North-South orientation of the houses, use of non-conducting building materials, location of the building at a well exposed position, optimum floor space, providing good air inlet and outlets for efficient ventilation and providing a cool surroundings with lawns and trees are the important principles practised.

Designed to produce high quality of milk :

Impervious and washable flooring, proper slope and good drainage system, washable walls upto 4ft. height and stanchion stall fittings are the designing factors related to the production of high quality milk.

Design to reduce labour :

Proper and convenient location of service building as feed and fodder rooms, calf houses, dairy and manure pits, provision of automatic individual water cups, continuous cement concrete manger, spacious feed and milking alley, introduction of machine milking, automatic gutter cleaner and provision of raised milking parlours are methods employed for labour economy and efficiency.

Designed to have efficient control of diseases :

Designing building to hold smaller units of cows upto 25, locating different cow houses at sanitary distance from contaminating points as manure pit, sewage disposal works and industries, providing quarantine and isolation sheds, introduction of devices for thorough cleaning and disinfection are the principles followed.

Designed for flexibility and greater utility :

Spacious sheds as concrete floors in the removable tabular rods fittings are used for providing stalls and other facilities. Sheds are without any pillars. These buildings can easily be adopted with suitable alterations to accommodate different types of livestock at different times.

Three systems of housing are generally adopted for management of dairy cattle.

Cow house system :

This system is adopted in places where there are extremes of climate as prolonged cold winter or rainfall. Less space is required for housing but it requires high investment and expensive management. Various operations as feeding, milking and resting are carried out in a single building with all devices in it.

Milking parlour system :

It is adopted in places having moderate climate and vast area. It is convenient for clean milk production and better comfort for animals. The construction cost is cheaper and there is increased milk production. The design consists of a separate milking parlour where milking alone is carried out and a open yard with adjoining shed providing 150 sq. ft. per cow, where animals are fed and rested. Animals are managed with loose housing arrangements.

Free stall system :

A recent introduction in the system of dairy cattle management is the provision of a totally covered

large shed giving about 50 sq. ft. for animal and having slatted wooden floor and free stall arrangements. A hay rick is provided for feeding silage and grass. Milking is carried out in a separate milking parlour. The first system is adopted where less than 25 cows are kept in the farm and the other two systems in farms having more than 25 cows.

Construction Details :

Plan :

It is a low cost cow house for dairy cows with calf pen.

Dimension of the byre :

Width with feeding passage— 18′

Width without feeding passage— 15′

Length of the shed without calf shed— 20′

Length of the shed with calf shed— 27′ 6″

Foundation :

A foundation of 1.5 ft. —2 ft. deep over a footing of 9″ will be sufficient for the cow house.

Walls :

2 ft. wall all around with a tubular rail 2 ft. above and brick or stone pillars of sufficient height at 10—12 ft. intervals for supporting roof are required. The inner surface of the walls should be finished smooth and hard with cement plaster.

Roof :

Simple lean to roof with aluminium or galvanised iron or asbestos sheets which is 8 ft. high at the back and 7 ft. high at the front is provided. There should be suitable length of over-hang at the front and back for preventing ingress of rain.

Flooring :

Flooring has to be put on a bed of granite jelly filled to a height of 9 in. and plastered on the top with fine cement concrete mixture for a thickness of 3 in. above the ground level. The flooring of the standing and passage is given a slope of 1 in 40 to the drain channel.

Ventilation :

The open space above 2 ft. wall and other open sides serve as ventilators for cross ventilation.

Drainage :

An open channel of 12 in. width and 2 in. depth, constructed of brick and cement mortar is provided at a distance of 7 feet from the manger along the length of the byre. It is continued as an open drain to a suitable out-fall.

Fittings (Manger)

It is 2 ft. wide constructed along the front wall with brick and cement mortar. The back wall is 12 ft. high from the floor. The depth of the manger should be 9 in. and the inner surface is sloped from front to back and finished round and smooth. A drain hole has to be provided.

Securing :

Iron rings of 3 in. diameter are fixed at the front of the manger at a distance of every 4 ft. all along.

Water trough :

Cement concrete water trough of 3 ft. X 2ft. X 2 ft. has to be provided at the milking passage.

Calf shed :

The end of the byre is partitioned with 2 ft. wall and tubular rods above to accommodate the calves.

Manure Pit :

Compartment of 5 ft. X 5 ft. X 3 ft. with cement concrete floor and brick wall above the ground will be sufficient to store the manure. It should be located at a distance of 100 ft. from the byre.

Additional facilities :

A feeding passage of 3 ft. width in front of the manger will be useful for storing straw, grass and concentrates.

BILL OF MATERIALS AND COST OF CONSTRUCTION OF COW-BYRES

Sl. No.	*Description*	*5 Dairy Cows*		*Rate for each item Rs.*
		Area in sq. ft.	*Cost in Rs.*	
	ROOF :			
I.	1. With Aluminium Corrugated Sheets	540	1,620	Rs. 3.00/s.ft.
	2. With A.C. Sheet ..	540	1,080	Rs. 2.00/s.ft.
	3. With Light Roofing	540	540	Rs. 1.00/s. ft.
II.	Cost of Timber : (Countrywood—Pillai Marudu	10 c.ft.	270	Rs. 27.00/c.ft.
III.	Labour for roofing works ..	..	200	..
IV.	Cost of tubular pipes for posts	200 c.ft.	1,800	Rs. 9.00 /c.ft.
V.	Cost of materials for foundation, concrete, brick works, flooring, plastering, etc.	..	1,500	..
VI.	Labour charges for earthwork excavation, construction of masonry works, flooring, plastering, etc. ..	..	990	..
			8,000	

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CROSSING TECHNIQUES INVOLVED IN IMPROVING THE LOCAL BREEDS OF

COWS, BUFFALOES AND HENS

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Progress in the art and practice of breeding has been made ever since man first domesticated some of the wild animals. This progress has been slow and at times uncertain but our present day knowledge has been based on an accumulating chain of discoveries and theories.

Hereditary and Enviorment

The colour, size, type and general makeup of an animal and its production are the results of two main groups of determining factors. Firstly there are qualities inherited from parents and secondly qualities acquired or imposed on by environment. Environment plays an extremely important role in determining the ultimate kind of progeny produced by any mating but on the other hand it is equally certain that inherited factors have a great influence.

Variation

No two animals are ever exactly alike though the differences may be slight. Geneticists call these differences 'Variations' and it is this variation which is the basis of all breed improvement. Selection means choosing the parents of the next generation, after a full study of all these differences and variations and skilled selection is the foundation and cornerstone of constructive breeding practice. If it were possible to produce an inbred stock of homozygous individuals without any variation at all, then it would be necessary to introduce outside blood to restore variation if further improvement of the strain were desired.

Effective selections depends on the availability of the evidence such as (1) individuality, appearance and production record, (2) ancestry performance, (3) family performance, (4) reproductive performance of the individual, and (5) quality of progeny.

The last two, especially (5) are the most important but this evidence is not obtained until after the individual has been tested. Selection must be continuous and continuing process. Selection must be based at first on (1), (2) and (3) ; reselection must take place as (4) becomes available and the final selection when (5) is known.

The production characters as egg, meat and milk are generally complex and are controlled by several genes. High egg production for example is probably determined by interaction of several hundred pairs of genes scattered throughout all pairs of chromosomes. The number of eggs laid will depend upon many characters like early maturity. intensity, persistency and non-broodiness. To improve any livestock one must start with what he has. Each animal has some good genes and some bad genes. As a breeder one should attend to these things

(1) to increase the number of good genes and to decrease the number of bad genes and (2) to put the genes together that will give a better end result. The only tool for improving the stock genetically are breeding systems and selection methods.

Common breeding systems are

(1) **Criss crossing** : Using a male of a different pure breed every year with the mongrel type resulting from previous crosses.

(2) **Cross breeding** : Mating different pure breeds together.

(3) **Hybrid** : The result of mating two different breeds together. Now-a-days specially used to denote the result of mating two inbred lines together.

(4) **Inbreeding** : Mating individuals of close relationship.

(5) **Incrossing** : Mating together two strains or breeds which are themselves inbred.

(6) **Line breeding** : Mating individuals not closely related.

(7) **Outbreeding** : Mating individuals of the same breed which are not related.

(8) **Progeny testing** : Assessing the value of a mating by the quality of offspring produced.

(9) **Reciprocal cross** : Cross between two breeds or strains, first one and then the other providing the male parent.

(10) **Reciprocal recurrent selection** : Selecting parents of two pure breeds on the basis of their success, when crossed together and maintaining the pure lines on the results of progeny testing the cross.

(11) **Upgrading** : Improving strain by mating to selected sires from another strain of the same breed.

(12) **Closed flock** : Flock that is bred continuously within itself without introduction of fresh blood from outside.

Common selection methods are based on the general appearance and production merits of individuals,

their family. Combination of the two as well as pedigree are progeny merits.

Choice of breed or breeds for mating

This depends on the availability, the purpose of production and the local climatic and disease situations. Accordingly the pure breeds of exotic and indigenous stocks can be drawn either for pure breeding, grading or cross breeding. Milk production for fluid milk may require Jersey cross. Again climate and management variables favour other exotic breeds as well. Similar considerations may be of avail in choosing the breeds for pure breeding or grading.

In case of birds egg production and meat production warrant use of egg type or meat type of exotic birds either for pure breeding or grading.

Crossing techniques for improvement of stock

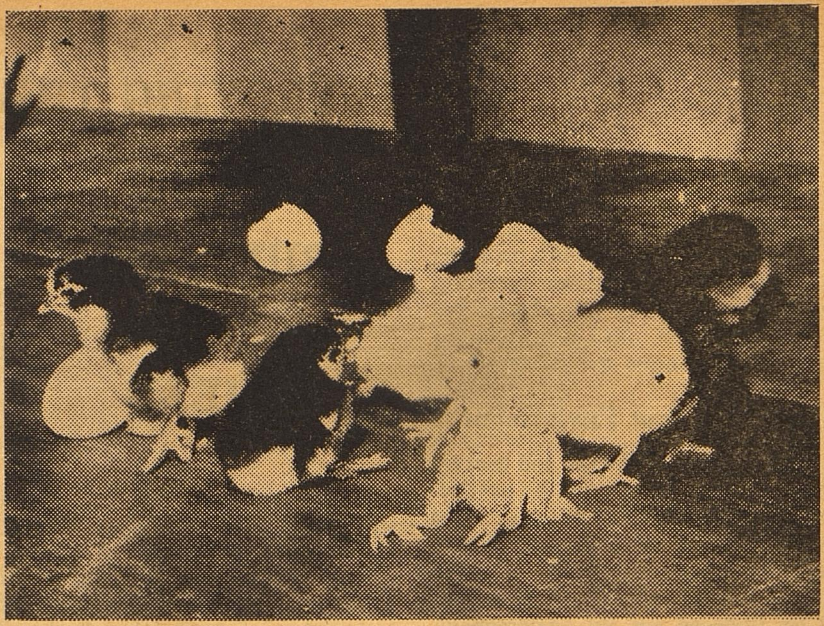
The crossing techniques involved in improving local breeds of cows, buffaloes and hens depend entirely on the structure and composition of the basic stock available.

Cow

With regard to the basic population, except for a very few isolated pure bred herds of indigenous origin like Sahiwal, Sindhi, Tharparkar and Gir, most of the milk cows are of the non-descript varieties and few cross breds in milk pocket or urban areas.

Grading would be advantageous in effecting improvement by use of superior sires of pure breds drawn from indigenous or exotic type to enhance the milk production status of the basic stock.

Cross breeding would again be advantageous by mating the pure bred cows of indigenous stock with the exotic stock both of superior worth. While crossing, production characteristic improvement should simultaneously allow for disease resistance and climatic tolerance. The level of indigenous blood and exotic blood in the progeny has to be carefully adjusted to have the above benefits in addition to increased production. Crossbreeding experts in India and elsewhere suggest that 0.5 to 5/8 of exotic blood is the optimum. This can



be achieved by back crossing. A first generation female calf (Jersey X Sindhi 50% or 0.5 exotic blood) mated with exotic (Jersey) sire again will give 3/4 exotic blood and crossing the 3/4 exotic blood female with 0.5 exotic Sindhi bull which give 5/8 the exotic blood (Jersind calves 5/8th blood).

Pure breeding with a closed flock of Sindhi, Sahiwal, Tharparkar and Gir herds can be practised. Selective breeding will help to achieve homogeneity in desirable genes and also improvement in their milking performance.

Buffaloes

Except for scattered Murrah Surti and Jaffarbadi pure bred herds most of the buffalow population come under the non-descripti variety.

Selective breeding as a closed flock in pure bred herds and grading of the local buffaloes by Murrah sires will facilitate the improvement of the milk potential of the buffaloes.

Hens

The vast population of our country still contain mostly the indigenous and non-descript variety. Work at Indian Veterinary Research Institute has shown that selective breeding of the indigenous hens over a period of 8 years has resulted in desi egg yield improving from 116 eggs to 140 eggs and egg weight from 39 gms. to 48 gms.

Grading of indigenous fowls with superior cocks exotic breeds like White Leghorn will also help to improve the local hens egg yielding potential.

Pure breeding of White Leghorn, Rhode Island Red, Australorp, White cornish, White Rock and New Hampshires available as closed flocks would again help to get inbreds for producing strains and producing strain crosses by mating among the strains.

Hybrid stock of foreign concerns in India, now commercially available needs to be purchased for every cycle of egg or meat production. The amount spent on this could be considerably saved by intensifying the planned breeding for producing superior poultry.

Thus breeding of any class of livestock for improvement reovlves round breed improvement and herd or flock improvement. The former aims on the long term effect and the latter on short term effect. Simultaneous efforts for breed and herd or flock improvement ultimately paves way for breed improvement. With a good stratification of stock, we will have livestock of superior worth and before we descend down completely we touch various levels before the worst ones are encountered. Now the lack of stratification among our livestock is mainly responsible for big lacunae in the productive potential to meet our requirements. Planned breeding in the years ahead will resolve this situation and will result in ultimate improvement.

INTENSIVE CATTLE DEVELOPMENT

AIMS AND OBJECTIVES OF MADURAI INTENSIVE CATTLE DEVELOPMENT PROJECT

By
Dr. A. Prarasuraman,
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Project Officer,
Madurai.

The Government of Tamil Nadu has revived the Intensive Cattle Development Project in its original pattern, considering the importance of achieving a break-through in milk production and the Intensive CattleDevelopment Project, Madurai, has been functioning with cent per cent State funds from 7—1—74 onwards. Usually the milk projects are established in milk shed areas, where there is good market for increased milk produced and the farmers have lively interest in increasing the milk production of their cows and buffaloes.

The Projects are all on a pattern drawn up for the whole of India with the specific object of stepping up the total milk production in the project areas by 33% at the end of five years, after commencement of the Project. Hence, Intensive Cattle Development Project is an integrated project, covering all aspects of milk production, *viz.*, (1) cattle breeding, (2) augmenting feed and fodder resources so as to provide adequate nutrition for the cattle, thereby exploiting their genetic potential and breeding efficiency fully. (3) creating a sizeable pocket of high yielding milch cattle and (4) to infuse confidence in the dairy industry.

Area of operation—Intensive Cattle Development Project, Madurai

Intensive Cattle Development Project, Madurai has been sanctioned in G.O. Ms. No. 2367, Agriculture Department, dated 1—12—1973, with Headquarters at Madurai. The area of operation includes Madurai South, Tirumangalam taluks, parts of Madurai North, Melur taluks in Madurai District, Srivilliputhur taluk, parts of Sattur and Aruppukkottai taluks in Ramnad District covering a population of about one lakh breedable age cows and buffaloes.

Staffing Pattern

At the Project level at Headquarters, there is a Project Officer, who is in overall charge of the Project. He is assisted at his office by a Fodder Development Officer, Dairy Extension Officer, Assistant Director of Statistics and Administrative Officer.

There are four Regional Artificial Insemination Centres at Madurai, Melur, Srivilliputhur and Virudhunagar, manned by an Officer in the rank of Assistant Director of Animal Husbandry and 100 Artificial Insemination Sub-centres under their control (25 for each) each manned by Livestock Assistant Grade I. There is a centralised Semen Collection Station at T. Kallupatti run by an officer with a Livestock Assistant Grade I to assist him in laboratory work. The centralised Semen Collection Station supplements semen requirements of the Artificial Insemination Centres, wherever there is need and regularly supplies semen to ten sub-centres of Madurai Artificial Insemination Centre and Usilampatty Veterinary Dispensary. It also functions as a model laboratory.

At each Artificial Insemination Centre, there is a Dairy Extension Assistant and a Deputy Agricultural Officer. The Dairy Extension Assistant advises farmers on right lines, the feeding and management of milch stock, rearing of young stock —calves (the future cows), proper milking, hygienic handling and transport of milk for marketing etc., so that the cattle breeders get the maximum benefit out of the existing and improved stock of cattle. At each Artificial Insemination Centre and Centralised Semen Collection Station, there is a Veterinary Assistant Surgeon to assist the Officer Incharge in technical routine of Artificial Insemination and evaluation of technical work at Main and sub-Centres.

The Deputy Agricultural Officer advises farmers on the importance of green fodder in the ration of dairy cattle for economic dairying, since many farmers are yet to know, that by increasing green fodder portion in the ration of milch cattle, concentrates can be reduced considerably and thereby feeding cost of animals also reduced. They are encouraged to grow grasses or legumes in a portion of their lands.

To assess the progress of the Project, from time to time the Statistical section of Intensive Cattle Development Project, Madurai has conducted various surveys, 1 to 3 on baseline data with regard to,

I. (1) Feed and fodder production

(2) Bench mark survey on cattle population

(3) Sample survey for estimating the existing levels milk production. The following Surveys are in progress :

II. (5) Milk and milk products produced, consumed and sold.

(6) The availability and consumption of feed and fodder resources.

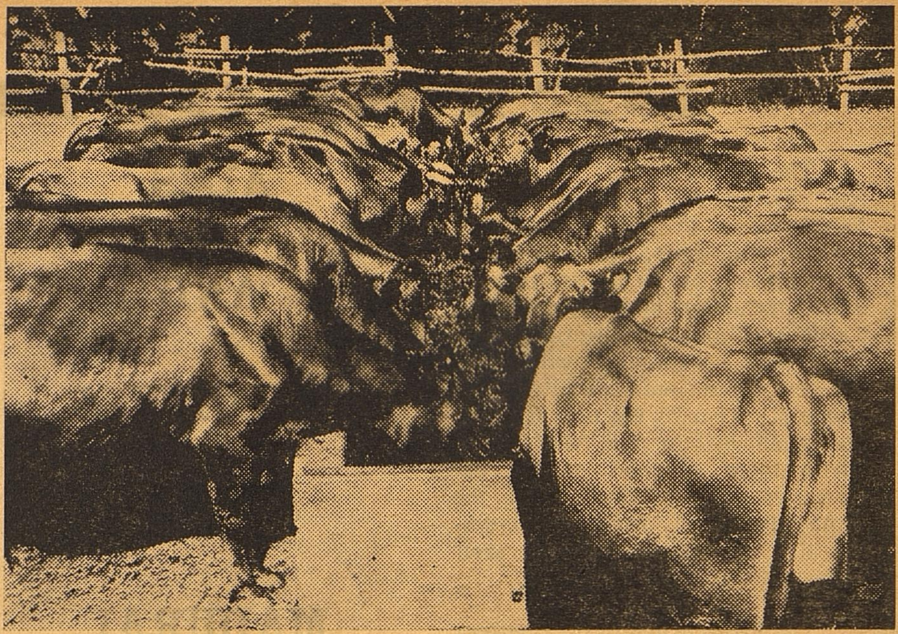
(6) The initial animal husbandry conditions like feeding habits, breeding habits, condition of cattle shed etc.

(7) Regular milk recording work on assessment of the increase in the output of milk.

The Assistant Director of Statistics is assisted at the Project Office by a Senior Computor and Statistical Assistant and one Junior Computor. The quantum of increase in milk and fodder production will be assessed annually by the Statistical wing, since successful dairying goes hand in hand with increased green fodder production.

Cattle Development work and Artificial Insemination Centres

The primary factor involved in augmenting milk production is the quality of cows and buffaloes. Any amount of improved animal husbandry practices and inputs will not lead to desired results unless the basic genetical makeup of the animals is improved. **The Intensive Cattle Development Project therefore has set up an intensive net work of Artificial Insemination Sub-Centres at the rate of one sub-Centre for every 1,000 herds of cows and buffaloes of breedable age.** The Livestock Assistants at sub-Centres will render Veterinary First Aid to the cattle population, perform preventive vaccination against contagious diseases, do castration of unwanted scrub bulls, maintain cattle census, livestock registers for follow up work.



High-breed cattle pay rich dividends

Collection of semen is being done, from Jersey bulls of high milk potential and from Murrah buffalo bulls daily at artificial Insemination Centres for distribution to sub-Centres. The Livestock Assistants Grade I at sub-Centre, besides attending to Artificial Insemination work at sub-Centres, follow up each Artificial Insemination done for pregnancies and calf verifications. He is assisted by one attendant to help in semen supply regularly, controlling animals for Artificial Insemination, treatment etc. Each animal inseminated and progeny born are registered and tattooed for identification at Artificial Insemination sub-Centres.

Cattle Breeding

It is an established fact that for achieving quick break-through in livestock improvement, Artificial Insemination of our cattle, is the only method available, since our country lacks in breeding bulls of high milk potential. Imported Jersey bullsi have been located at the four Artficial InseminationCentres and Centralised Semen Collection Station in Intensive Cattle Development Project, Madurai. The idea is to create a pocket of Jersey cross breds in Intensive Cattle Development Project area. Jersey breed has been selected because animals are of compact size and they are getting easily accustomed to stress of our tropical climate and do not generally suffer from ill aspects of the severe summer prevailing in Tamil Nadu.

Cross breeding is the mating together of two animals belonging to different breeds. The progeny is known as cross bred and is noted for its vigour, hardiness, disease resistance and rapid growth. The quickest breeding technique known for increasing the production of milk rapidly is cross breeding of indigenous cattle with exotic breed of higher genetic potential. An average Indian cow yields about 200 Kgs. of milk per lactation while lactation yield of most of the exotic breeds is above 4,000 Kgs. By use of such exotic breeds on the low producing indigenous cows, average production of milk can be raised to about 2,500 Kgs. per lactation in the first generation itself. There are other advantages of cross breeding.

(1) Given adequate nutrition cross bred calves mature normally at the age of about 18 months, whereas indigenous heifers attain maturity at 36 months usually.

2) The cross bred female progeny yield on an average, three to four times more milk than their dams of indigenous breeds.

(3) In cross bred cows, lactation period is longer than local cows. On an average the cross bred cows give milk for about 8—10 months, as against 6—8 months in case of Desi cows.

(4) With adequate balanced ration, cross bred cows have a higher rate of reprodutive efficiency

Sure Success Of The Project Hinges On The Awarness Of The Farmers

compared with indigenous cows. Generally, the cross bred cows conceive within 2 to 3 months after calving as against 3 to 6 months in case of Desi cows.

(5) Due to lower maintenance cost, higher milk production and efficiency feed conversion, of the cross bred cows, it is mere economical to maintain them than local cows. For buffaloes, grading up with Murrah Buffalo bulls is being done.

The Intensive Cattle Development Project area comprises of a lakh of cows and she buffaloes of breedable age, each Artificial Insemination Centre area, covering roughly 25,000 cows and buffaloes of breedable age to bring about a significant impact on milk production. The project is so designed to provide at the farmers' level a package of improved practices, and is a programme to cover all aspects of cattle development *viz.*, breeding, feeding, fodder development, dairy extension, cattle health cover and marketing. Sub-centres which have got electricity are provided with refrigerators to preserve semen, so that such Sub-Centres get semen on alternate days and there is saving of petrol for Jeep.

Feed and fodder resources

Importance of green fodder for protein and Vitamin 'A' requirrements of Livestock has to be emphasised on the farmer. Moreover leguminous fodder like lucerne, cowpea, Sesbania enrich the soil, by the nitrogen content in the roots and they are protein rich fodder also for Livestock. Unless a cow or buffalo is properly fed on scientific lines, she will neither yield milk to her full capacity nor will breed regularly.

Increased return from land, depends upon a maximum degree of integration, on the cultivated land itself, of crop and Animal Husbandry so that the fertilisers might have their maximum effect or the yield of food and cash crops. This can happen only if bovines are fed to a sufficient nutritional level on fodder crops grown on cultivated lands to which all dung and urine are ploughed back. Such mixed cultivation of high yielding and more nutritious fodder crops, perennial grasses like guinea, pusa. hybrid napier, and legumenous crops like lucerne is encouraged to improve fodder resources of the Project and in case of legumes to increase soil fertility also.

Fodder slips and seeds are made available to interested ryots at subsidised rates with free technical knowhow through the Fodder Development staff of this project. Various types of incentives for fodder development of farmers are also being given.

Dairy Extension Work

Proper milking with due hygienic precautions, proper processing and disposal are necessary to avoid spoilage of milk and safeguard public health. Hence the Dairy Extension Officer at Headquarters assisted by four dairy Extension Assistants periodically visitCo-operative Milk Supply Societies and private dairies and advise cattle owners on proper management of mild cattle, rearing of calves etc.

Now dairy loans for purchase of milch animals are advanced through nationalised banks mainly and not through Government departments. The Dairy Extension wing of Intensive Cattle Development Project, Maudrai, has taken efforts in this direction and a sum of Rs. 14,400/- has been advanced as loan from Canara Bank for purchase of 13 milch animals in Artificial Insemination Centres area of Melur and Rs. 3,000/- in Artificial Insemination area Madurai for purchase of three milch animals. Mere amounts will be obtained from Nationalised banks as milch loan to farmers from April, 1975.

The Dairy Extension Assistants advise cattle breeders to build up their own herd by rearing heifer calves on right lines so as to induce early maturity, reduce dry period, by inseminating cows and buffaloes, between 2nd and 3rd month after calving, castrate the male calves early and cull out the unwanted stock gradually. The Intensive Cattle Development Project area Madurai is covered by eightyfive Co-operative Milk Supply Societies

which are functioning under the Dairy Development Corporation. The Dairy Extension Assistants and Dairy Extension Officer periodically inspect the Co-operative Milk Supply Societies, collect particulars regarding milk production, selling rate of milk and milk products and advise farmers on improved Animal Husbandry practices.

Technical aspects of Intensive Cattle Development Project

Technical assumptions are :

(1) Given the adequate nutrition, any upgraded cow is bound to give an appreciable increase in milk yield and breeding efficiency of such cows and buaffloes will also increase.

(2) Artificial Insemination provides better ' genetical complex ' of the would—be cows, so as to increase the individual capacity for milk production.

(3) Steps are taken to conserve and consolidate existing and future female progenies.

(4) Cattle are given better health cover and disease control measures for better performances and losses are prevented.

The Statistical section, continuously collects data on the salient aspects of milk production, utilisation etc., so as to watch impact and provide appropriate corrective measures in time, since the final end is a cumulative effect of all the means in a span of about five years.

The technical work of the project was started on 7—1—74 by taking over the Artificial Insemination Centres, Madurai, Melur, Virudhunagar and Srivilliputhur and also the Veterinary Dispensary-cum-Key Village Centres in the area.

SCHEMES IMPLEMENTED DURING 1975-76

(*i*) Dairy Extension

Selected heifer calves of both white and black cattle born by Artificial Insemination and aged 6 months, have been included in subsidy scheme, by which the calf owners are paid a subsidy of Rs. 10/- per mensem. They will continue in the scheme, till the age of three years or till date of maturity or Artificial Insemination whichever is earlier. An arrear subsidy of Rs. 5/- for each of these calves will be paid in aggregate, when these calves calve again through Artificial Insemination for the entire period, the subsidy calves continued in the scheme. This scheme prevents the drifting away of heifer calves with high milk potential, from Intensive Cattle Development Project area thus ensuring their availability for stepping up milk productive in the area. Improved breed heifers particularly cross breds fetch fancy prices when they are in advanced pregnancy and unless tis here some incentive to prevent their sale, milk of such valuable heifers will not be available for the area. Moreover nationalised banks are liberally providing financial assistance by way of loan for purchase of dairy animals, but the inputs are found to be scarce and mostly there is displacement of cross bred animals from one place to another.

A sum of Rs. 3,000/- has been spent on calf subsidy scheme during 1974—75 and 150 selected heifer calves have been included and subsidised in Intensive Cattle Development Project, Madurai and they are distributed over the four regional Artificial Insemination Centres.

A scheme for establishment of feed mixing unit at Madurai under departmental control so as to give balanced feed to these subsidy calves, instead of cash as subsidy, has been submitted and it is under consideration of the Department.

(*ii*) Fodder Development

Unless farmers are given incentives for growing perenniel grasses or leguminous fodder, they do not normally come forward to cultivate them, since, return from cash crops like chillies, tomatoes, or tubes even in dry land cultivation is about three times more than grasses. Hence a subsidy of Rs. 2/- per cent for fodder grasses and Rs. 2-50 for legumes like lucerne, has been paid during the year with a celing subsidy of Rs. 50/- per individual 190 such village demonstration plots have been established during 1974-75 in Intensive Cattle Development Project area, Madurai distributed over the four Artificial Insemination Centres and a sum of Rs. 5,998/- has been spent on this cultivation. Sesbania (Agath') and its use as cattle fodder has also been encouraged and subsidy paid at Rs. 2/- per cent.

Subsidy for construction of well and cultivation of fodder grass

Under this scheme wells constructed during 1974—75 through loans from land development Banks, were selected and an undertaking from the owners of these wells obtained to the effect that, they would cultivate, one acre of perenniel grass, from these wells, for three years, was obtained. Two people were selected and given a subsidy of Rs. 750/- each, after they raised one acre of grass in their lands.

2,88,000 grass slips, (guinea, Pusa giant napier and Kamadhenu varieties) obtained from Government Livestock Farms have been distributed at half cost to farmers in Intensive Cattle Development Project area Madurai.

4,000 NB 21 slips have alsobeen distributed to a dairy farmer, near Madurai.

Severe drought and famine conditions, prevailing in these area, with paucity of water, in wells during this year stood as a bottle-neck in the way of effective implementation of fodder development scheme.

Intensive Cattle Development Project is bound to be a success, as more and more farmers have realised advantages of Artificial Insemination, maintenance of crossbred cows and graded Murrahs for higher milk yield and they have understood the importance of green fodder in the ration of milch and other livestock, for enhancing milk production and profits in dairy industry.

WILD LIFE OF INDIA THROUGH THE AGES

by

B. Jagannatha Shetty, I.F.S.

Ours is a country of continental dimensions. Thanks to her immense vastness, she enjoys a wide range of climatic conditions to give us a rich variety of flora and fauna. **Bountiful nature has endowed our country with more than 500 species of mammals and about 3,000 species of birds and in richness of wild life we are second only to Africa in the whole world. But this represents only a fraction of the glory that was ours in the abundance and variety of wild life we possessed in the past.** Our wild life has become a fast vanishing asset due to the spread of civilisation. Hence the need of the hour is to reverse this trend and salvage and secure posterity the precious heritage we are left with. In this connection it may be profitable to take a look at the passing panorama of the condition of our wild life through the ages. It is hoped that such a survey will make us wiser though sadder men.

Mythological times : In our mythology the important place of honour given to animals in the galaxy of Hindu Gods and their associates is not without significance. The earlier Avathars of the Hindu God Vishnu are all animals. According to Darwin's theory of evolution, life started in the sea, later became amphibian and still later terrestrial, higher and higher forms of life being evolved as the time went on. It is interesting to find reflections of this theory in the chronological sequence of the ten Avathars of Hindu mythology ranging from Matsya (Fish), Kurma (Tortoise), Varaha (Pig), Vamana (Pigmy), Narasimha (half man, half lion), Parasurama (the primitive man with the axe), Rama, Krishna and finally Buddha who is acknowledged as the nineth Avathar. **Adoption of these animal Gods serves to emphasise the oneness of all life by portraying its origin and evolution in a significantly symbolic way.** Our seers of yore had realised clearly that man and other animals represent different branches thrown out by the same tree of life and hence it is neither right nor proper for man to deny this kinship of common ancestry and behaves as through he alone inherited the earth. All this go to show in what high esteem the animals were held according to our ancient tradition.

Further the ashrams of our ancient Rishis where the best in Hindu culture was born were treated as refugees for wild animals and functioned as veritable Abhayaranyas where animals roamed about freely without any fear of molestation by man.

There are significant passages in Kautilya's Arthashastra which speak of the importance given by the statesmen of their day to wild life preservation. They had established sanctuaries and National Parks and appointed enforcement staff like the guards to check poarching, and Forest Superintendent for overall supervision. Heavy penalties were prescribed for offenders who trapped, killed, or molested deer, bison, birds and fish in areas declared as protected. Certain animals and birds like the elephant, horse, peacock, swan, cuckoo and fish in tank were declared as completely protected species. **Extraction of timber and other forest produce and burning of charcoal were prohibited in the National Parks.**

Historical Times

During the early Jain and Buddhist periods also, killing or injuring of any living being including wild life was looked down upon, as both the religions acclaimed non-killing as a virtue. Buddha preached his first sermon on the deer park at Saranath. According to the testimony of H. G. Wells, Emperor Ashoka shines and shines almost alone amongst the monarchs of recorded history and is unique in having given up war in the moment of victory. Historically he was also the first emperor to proclaim a charter for wild life. **The 5th Pillar Edict of Ashoka is the earliest known record anywhere of measures taken for protection of wild animals.** This Edict contains the game and fishing laws introduced in India in the 3rd Century B.C., furnishing a list of birds, beasts, fishes and even insects which were strictly to be preserved. The mammals named were bats, monkeys, rhinocerus, parcupine, tree squirrels, bharasigha stag, brahimny bulls and all four footed animals which were not utilised or, eaten. Other creatures declared as invoillable were parrots, mynas, queen ants and fishes of various kinds. The Edict further ordains that the forest should not be burnt either for mischief or to destroy living creatures.

WILD LIFE SANCTUARY	SYMBOL	BEST SEASON
MUDUMALAI	1	FEB – MAY
VEDANTHANGAL	2	NOV. – FEB
GUINDY PARK	3	ALL YEAR
POINT CALIMERE	4	NOV – MAR
MUNDANTURAI	5	JAN – SEPT
ANAMALAI	6	FEB – MAY

The Moghul Period

Centuries later, the Moghul Emperors who were keen observers, sportsmen and men of action displayed a deep interest in the animal life of the country. Their writings are full of description some in great details of the animals, the plants and flowers of the country over which they ruled. Babar, Humayun, the great Akbar and Aurangazeb display in their writings their love of nature and **Jahangir was a born naturalist. It is said of him that had he been the head of a great Natural History Museum instead of being the emperor of India he would have been a better and a happier man.** His profuse and engrossing memoirs are a real Natural History of the animals life of India.

The comparative abundance of animal life in those days can be inferred from the fact that a little more than 100 years ago lions were hunted with bows and arrows in the Punjab. The Moghuls used to chase the Indian Rhinocerus in the Siwalik foot hills. The Moghuls were fond of falconry and also the sport of hunting with Cheetah which was found in plenty in their days but which has since become practically extinct.

The British Period

The British rule that followed ushered in an era of comparative peace and settled conditions, which gave an impetus to expansion of agriculture, by destroying the forest which are the natural home of wild life. This decline which started in the middle of the 19th century gained momentum with the invention of the gun powder and deadly accurate and powerful sporting weapon like the large bore rifle developed by Bakar in 1840 and the express rifle by Foresyth in 1860. To make matters worse the British Army Officers, Civil Servants and Tea Planters of those days indulged in wanton slaughter of wild life all over the country for the mere fun of it. **The constitution of selected forest blocks as Reserved Forests and the coming into force of the Indian Forest Act of 1878 and similar State Forest Act at about the same time (*e.g.*, Madras Forest Act was passed in 1882) with provision to control and regulate hunting and shooting in Government Forests stand out as important landmarks in the History of Wild Life Preservation.** The other Acts passed with the same objective include Elephant Preservation Act of 1879 and the Wild Animals and Birds Protection Act of 1912. But unfortunately most of the provisions in the last mentioned Act remained a dead letter for want of proper enforcement.

Animal's Role in National Life

Besides the horses the 'Ele phants' formed an important wing of any of the olden days. Elephants were employed in the fight against the invading armies of Alexander the great and later on also up to the Moghul period. This shows how our ancients were not only aware of the worth and intelligence of these animals but also knew how to capture, train and harness them. The tradition of elephants being an ornamental adjunct to temples and being taken in procession with full decoration on festive occasions continues till today. **Our princes kept these animals as a status symbol. They decorated them most elaborately and rode on them on special occasion like coronation and marriage. One of the most attractive features of the famous Dasara festival celebrated in Mysore is the elephant ride by the Maharaja and his retinue.** Elephants have also been employed in hunting expeditions by the princes and other high placed persons. In Mysore State even their capture by the Khedda method has become a colourful spectacle of international fame ; in short they have contributed in no small measure to the pomp and pageantry in national life throughout the ages and provided inspiration for many a work of art and architecture of exquisite beauty as at Mahabalipuram and elephant caves. Lion is another animal which had caught the imagination of our people from time immemorial. The maned majesty of its face and its royal bearing apart from its reputation as lord of the jungle seem to have singled it out for the preference of the price and the pleasant alike. **By choosing the lion as our national animal, and also as the emblem of republican India, we have only honoured the memory of this animal held dear by the people since Saranath days.** Though South India does not seem to have been the habitat of the lion at any time we meet its like no less in the stone-wall and wooden pillar of many a temple and other works of architecture in the south too. Amongst the birds, the peacock, our national bird, has enjoyed unrivalled popularity through the ages for its beauty which has been celebrated in song and story.

The Present and the Future

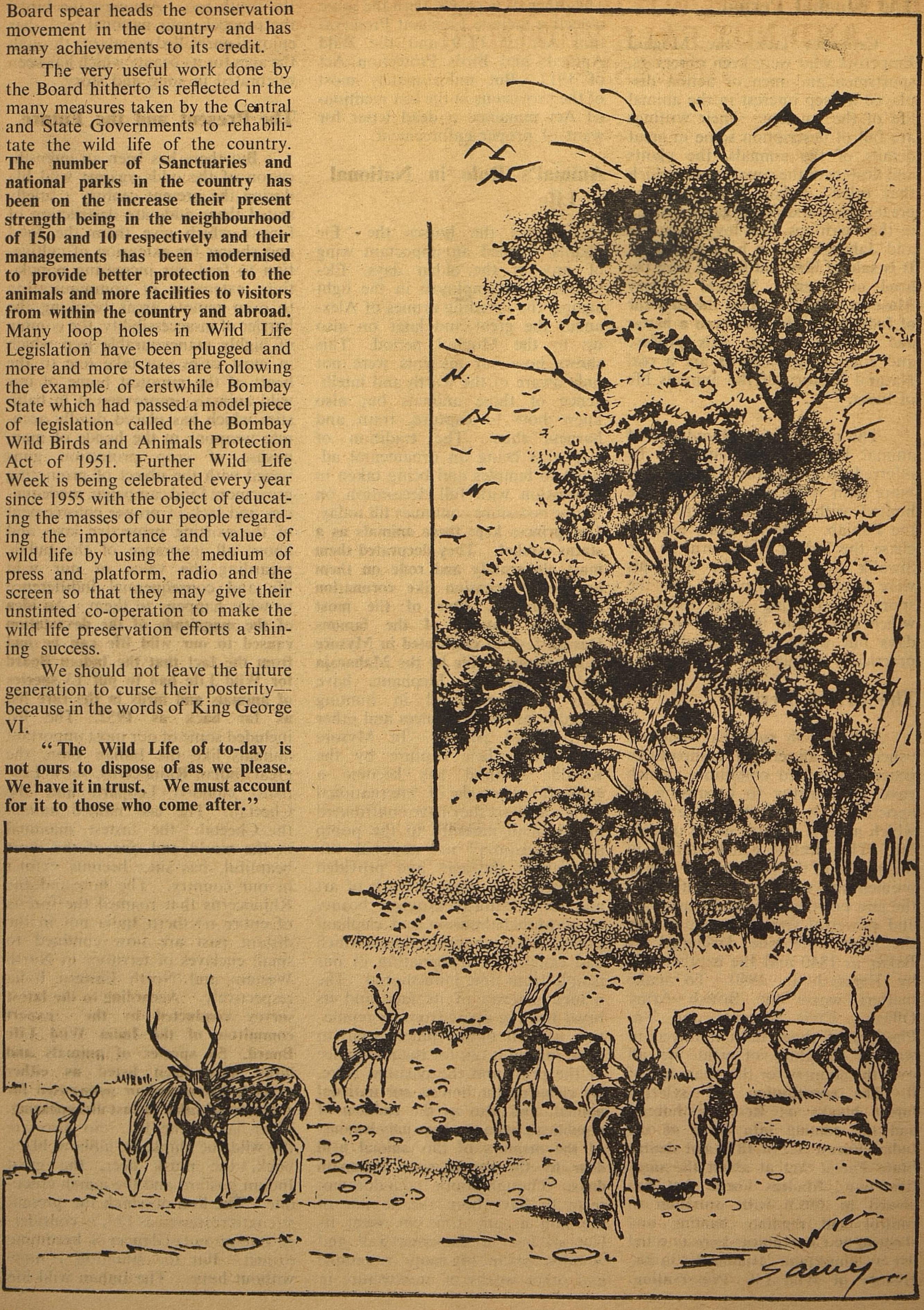
But there has been an intensification of the odds against wild life during the present century ; briefly stated these odds are destruction of forests which give them the food and shelter for extension of cultivation to feed our increasing population, extension of communication to even remote areas breaking the barrier of in-accessibility, the coming of highly manevourable jeep which in most cases can take one to the heart of the remotest home of our wild animals, improvement in ballistics which has placed deadly accurate weapons in the hands of man, misuse of crop protection guns issued with the object of promoting grow more food campaign, inadequacies and lack of proper enforcement of the existing protective laws and above all ignorance of the public regarding the value of our wild life and consequential indifference to what happens to them. **An idea of the magnitude of the devastation caused to our wild life can be had from the fact that the Indian Board for Wild Life had to put 13 species of animals and birds in the rare list as far back as 1952.** The list included some of our most important animals like the Indian Lion, the great Indian Rhinocerus, snow Leopard, clouded Leopard and the Cheetah. The last named animal the Cheetah, the fastest mammal in the world and one of the most beautiful, has since become extinct in our country. The lion and the Rhinocerus that roamed the forests of entire northern India not in the distant past are now confined to small enclaves of territory in North Western and North Eastern India respectively. **According to the latest survey conducted by the expert committee of the India Wild Life Board, 54 species of animals and birds have been listed as either extinct, threatened or persecuted for commercial value or fast disappearing.** Tiger is on the list. So also are the wild the chinkara, gibbon, black buck, the musk deer, the great Indian bustard and the marsh crocodile. The lion of which the present strengtis ressessed as 177, is considered not yet out of danger of becoming extinct. But the situation is now without hope. The Indian wild life

Board spear heads the conservation movement in the country and has many achievements to its credit.

The very useful work done by the Board hitherto is reflected in the many measures taken by the Central and State Governments to rehabilitate the wild life of the country. **The number of Sanctuaries and national parks in the country has been on the increase their present strength being in the neighbourhood of 150 and 10 respectively and their managements has been modernised to provide better protection to the animals and more facilities to visitors from within the country and abroad.** Many loop holes in Wild Life Legislation have been plugged and more and more States are following the example of erstwhile Bombay State which had passed a model piece of legislation called the Bombay Wild Birds and Animals Protection Act of 1951. Further Wild Life Week is being celebrated every year since 1955 with the object of educating the masses of our people regarding the importance and value of wild life by using the medium of press and platform, radio and the screen so that they may give their unstinted co-operation to make the wild life preservation efforts a shining success.

We should not leave the future generation to curse their posterity—because in the words of King George VI.

"The Wild Life of to-day is not ours to dispose of as we please. We have it in trust. We must account for it to those who come after."



HOW TO LIVE WITH MOSQUITOES? AND NOT FALL VICTIM TO DISEASES!

Periodical spraying of stagnant pools and houses control Mosquitoe menace.

Mosquitoes have been with man for ages. People living either in towns or in the countryside have known mosquitoes as a menace to their well being. Their nightly visitations and their vicious bites have been experienced by all, high and low. Sensitive persons are troubled by the mosquito bites and suffer loss of sleep at nights. While everyone looks upon mosquitoes as pests, many do not know that they can also convey diseases to man.

A number of diseases are conveyed to man through the agency of mosquitoes. Foremost amongst them is Malaria. It has occurred as a widespread disease in rural and in some of the urban areas of our State. It causes intermittent fevers persistent for a number of years with frequent relapses. Affected persons suffer from anaemia, spleen enlargement and debility. It caused 1% mortality among the afflicted persons. This disease retarded the agricultural and industrial development of a country when left uncontrolled.

Another disease commonly prevalent in our State is filariasis which also spreads from man to man through mosquitoes. Initially the infection causes fever and swelling of grein glands. Repeated infections and attacks result in the development of elephantiasis affecting legs, scrotum and breasts. The affected persons not only suffer from the physical disability but are also handicapped psychologically due to the social stigma attached to the disease.

Other less known but equally pernicious diseases are dengue and Japanese encephalitis. These diseases occur in towns either in epidemic or endemic form. Dengue usually occurs after the rainy season causing an acute illness accompanied by fever. Japanese encephalitis also occurs in towns and cities and the disease affects the central nervous system.

Yellow fever is yet another dreadful mosquito-borne disease. It is not prevalent in India but all the conditions for its spread are present and should the disease be introduced by any misfortune, it is likely to spread like a wild fire causing extensive mortality.

For abatement of nuisance and for preventing disease transmission, control of mosquitoes is essential.

Problem of Mosquitoes :

Why do we have the problem of mosquitoes? To answer this question, one has to understand the ways of living of man as himself and as a community. As with domesticated animals, mosquitoes have come to stay with man, closely associated with him as he and his domestic animals provided easy sources for their blood meal and his environment provided facilities for their multiplication. Water forms an essential part of his environment which he uses for drinking, washing, Cooking and raising food Crops and for his industries.

They exhibit definite preferences in the selection of their breeding places. Some select clean water as in rivers, streams, channels, pools, ponds, tanks, etc. Some need brackish water as in wells. Whilst some others use the sullage water. Some of the urbanized species of mosquitoes have adapted to breed in artificial water collections such as cisterns, tubs, barrels, roof gutters, tyres, grinding stones, broken chattis etc. The process of urbanisation and industrialisation has only increased the use of water for domestic and industrial purposes. Factors like ill-planned growth of urban areas, scarcity of water supply and inadequate drainage and disposal of human sullage and waste water as also increase in ill planned water storage practices and to their living in unhygienic environment are exploited by mosquitoes to increase their own population. So the problem of mosquito abundance is directly linked, with the management of water supply and drainage. **Man's own apathy and ignorance have been no less responsible for providing the ingredients necessary for the proliferation of mosquitoes.** In this respect, the urban environment with numerous man-made breeding places, and dense population offer maximum facility for a most formidable mosquito abundance.

Life History of Mosquitoes :

The life history of mosquitoes consists of four stages — egg, larva, pupa and adult.

House visits help detect cases of Malaria (Top left); (above left) all fever cases in hospitals are sereneed by blood-test, for Malaria, (above right) spleen enlargement due to repeated Malaria attacks in children and (Top right) medicine is delivered at door-step to combat Malaria.

Female mosquito lays her eggs on a water collection. She lays about 100—150 eggs each time at an interval of two days during her life which is about one month. The eggs hatch within 24 hours and a larva emerges from each egg. The larva can live only in water and it feeds and grows. After passing through four stages of growth, it becomes a coma shaped pupa in about a week's time. In about 24 hours, an adult mosquito emerges from the pupa. The adult mosquitoes are terrestrial. The male mosquitoes are short lived and feed on plant juices. The female mosquitoes after being impregnated by male seek human or animal blood. A blood feed is necessary for the development of ovaries. The female rests in houses and cattle sheds to allow digestion of blood and maturation of ovaries which takes two days to complete. After laying her eggs, she once again returns for a blood meal and thus repeat the cycle.

By its habit of feeding once in two days, a female mosquito can transmit a disease infection from one person to another.

How to Eliminate Mosquito Problem

The approach to this problem can be made in two ways :

(1) mosquito abatement to reduce its nuisance and annoyance and

(2) disease control.

Eradication of mosquitoes is not necessary for eradication of diseases. Efforts are made to control mosquito population at a level at which diseases transmission does not take place. On the other hand it is difficult to achieve mosquito eradication as it involves a change in the environment in which man lives. Measures can be adopted for mosquito prevention or mosquito control. Mosquito prevention consists of adopting physical measures which seek to reduce or eliminate sources of mosquitoes. Mosquito control aims at control of larval breeding by chemical methods. Mosquito reduction can also be achieved through house-spraying with insecticides like DDT but in urban areas this measure is not adopted except in exceptional circumstances due to its prohibitive cost, difficulty in achieving sufficient coverage and ability of mosquitoes to develop quickly resistance to insecticide used.

It is well known that mosquitoes require water to breed. Before a water collection becomes dangerous breeding ground, the water must remain for a minimum period of about a week to allow the completion of the life cycle of the mosquito before the adults emerge and become the source of annoyance. It is therefore necessary firstly to avoid the creation of mosquito breeding places of any kind. Secondly, it should be aimed to prevent access of mosquitoes to water. And lastly, where these are not feasible, every known method should be employed to render the water unsuitable for mosquito breeding. In seeking to achieve these objectives, the practice of the following measures should commence at the level of individual house holds.

Individual Measures :

1. Use mosquito nets.
2. Screen doors and windows with mosquito proof wire mesh to prevent access to mosquitoes into the house.
3. Use space spray with pyrethrum inside sleeping quarters against adult mosquitoes.
4. Use asmudges, coils and pastilles as mosquito repellants.
5. Ask the Sanitary Worker to stock your well and overhead cistern with gambusia fish once a week.
6. Screen the overhead cistern with wiremesh to prevent access to mosquitoes for egg laying.
7. Keep your cement cisterns in the premise dry for one day in a week.
8. Eliminate backyard water stagnation by constructing a soakage pit.
9. Keep your house-drain clean.
10. Destroy all disused articles which can hold water such as broken chattis, broken bottles, cocoanut shells, etc.
11. Eliminate the cess-pool by connecting with street drains. If it is not possible, get the sanitary worker treat it with oil once a week.
12. Provide mosquito-proof covers to the ventilating shaft of the septic tank to prevent entry of mosquitoes into the tank and escape from it.
13. Defective septic tanks should be repaired immediately.
14. Domestic wells used for drinking water supply must be made mosquito-proof by covering the well completely with cement concrte and by providing a pump for lifting water.
15. Disused wells should be heremetically sealed.
16. Where roof gutters are used, they should be of cast-iron and should be provided with a suitable gradient.
17. During house construction, the storage tanks connected with the mixing of cement and the water used for flooding newly laid concrete floors, roofs, etc. should be added sufficient cresol to make such water milky.
18. Add a little common salt to the flower-pots.
19. Ask the Sanitary Worker to stock gambusia fish in ornamental cisterns maintained in the house.
20. Do not allow any water collection to stagnate within the premises.

Community Measures :

1. Environmental control aiming at sources reduction such as draining, silting, canalisation, edging, flooding, fluctuating water level, removal of floatage and vegetation, controlling pollution, intermittent drying, screening ventilating shafts of septic tanks, earth-filling, closure of disused wells etc.
2. Treatment of breeding places once a week using oils, paris green pyrethrum, OP compounds.
3. Stocking breeding places like wells, cisterns, etc. with gambusia fish and large sullage stagnations with supply fish.
4. Space spraying with pyrethrum extract.
5. Residual house spraying with DDT and BHC.

HOW WE TIDE OVER WATER CRISIS IN CITY

CHIEF MINISTER'S MOVING APPEAL FOR WATER ECONOMY

The City depends on two lakes, namely, Cholavaram and Red Hills for the supply of drinking water. In a normal year, we are able to get about 52 million gallons daily from these lakes.

As a result of the failure of the monsoons, the storage in these lakes has dwindled leading us to the present situation. The Government of Tamil Nadu has taken all possible steps to tide over the present difficult situation.

As against the normal supply of 52 million gallons daily, we are now in a position to supply about 30 million gallons per day on alternate days. We have taken steps to conserve the available water supply in these lakes to the maximum extent possible. The supply channels bringing water to the lakes from Tamarapakkam ground water sources are being improved. A portion is being lined, so that there is no seepage and the entire quantity of water can be drawn to the main pipeline. We would get additionally 1.5 to 2 million gallons water a day from this improvement.

We have requested Madras Fertilisers and Madras Refineries Limited to reduce their consumption of water from the ground water source at "Panjetti." They have been helpful. We expect to get additional supply of 1.7 million gallons water a day from savings effected by both these industries.

In a very short period, 7,400 new filter point tube wells have been sunk. As many as 501 open wells have been constructed ; 400 more filter point wells and 250 more open wells will be constructed before the end of June, 1975. As many as 618 public wells have been desilted and brought into use.

Five tube wells yielding one million gallon of water daily have also been laid along the coastal area nearer to the city. In addition, work is going ahead to tap one million gallons daily of sub-soil water in the coastal area south of Tiruvanmiyur and to deliver it in the city.

Long-Term Measures

To supply drinking water to needy areas like slums, 638 water tanks have been constructed and installed and about 500 more such tanks will be manufactured and installed in public places in residential areas, covering all parts of the city, to which drinking water will be delivered by means of lorries.

About 80 lorries are now being used to distribute the drinking water and for discharging into the various water tanks. Shortly the number of lorries used for this purpose will be increased to one hundred. More lorries will also be mobilised and put to use depending on the requirements. Government have thus taken all possible steps to deal with the situation.

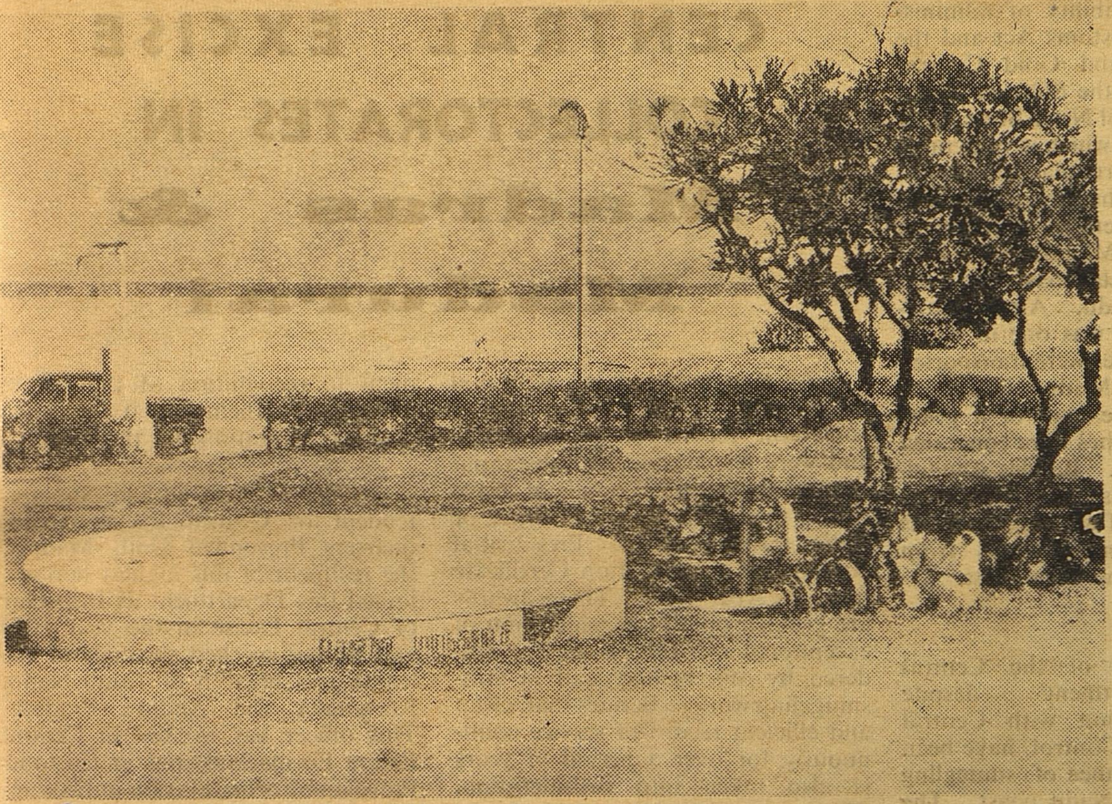
Somewhat on long term basis, the Government are implementing the Palar Drinking Water Project, under which 4 million gallons of drinking water will be tapped in the Palar basin and conveyed to Madras, by means of pipes including Veeranam pipes. This work is expected to be ready before the end of September, 1975.

Conserve every ounce of water

Of course on more long term basis, we expect that the completion of the Veeranam Drinking Water Supply Project would augment the city water supply by 40 million gallons daily. We are hopeful of completing this project by the end of 1976. The Government have thus taken all possible measures to tide over the present difficulties by conserving all the available water supply as much as possible and distributing the same on equitable basis. The Corporation of Madras is implementing the day-to-day programme in this regard. All the efforts of the Government and the Corporation of Madras will be mobilised to tide over the present difficulties.

In this connection, I would like to appeal to the citizens of Madras City to conserve the drinking water supply as much as possible. At this hour of need, there must be proper appreciation of the importance of conserving every ounce of drinking water. I do hope that the citizens of Madras will appreciate the situation and give us their help and co-operation in our efforts to meet out the present situation systematically and successfully.

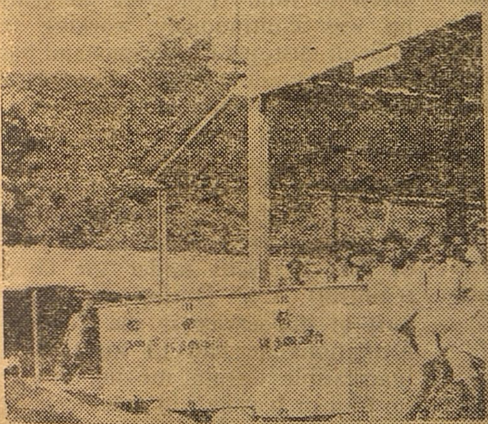
FIGHT AGAINST WATER SCARCITY

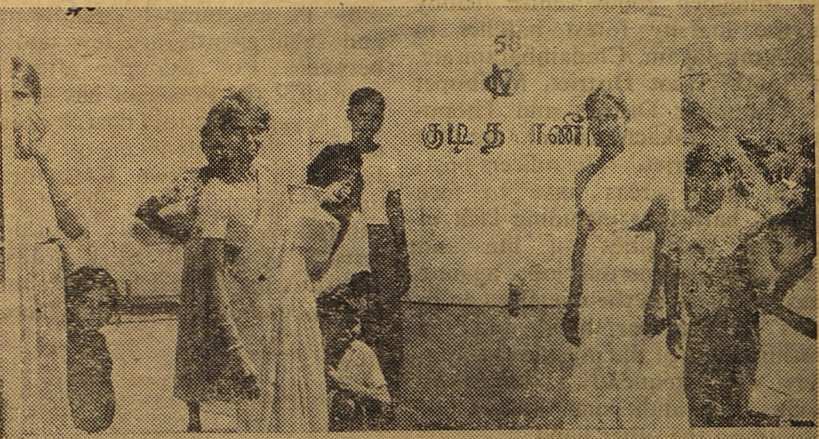


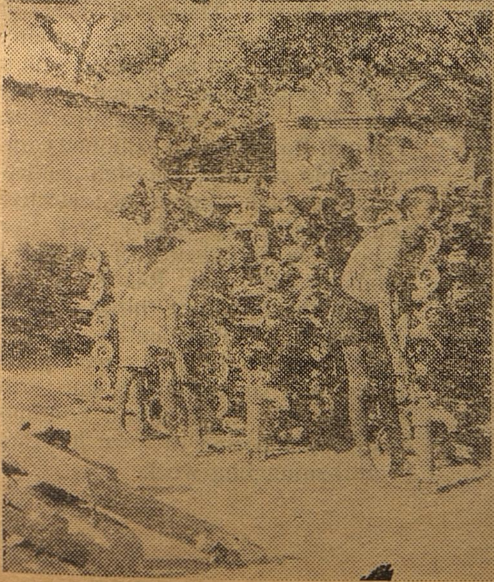
(Pic. left)

The beautiful Marina has been dug up for water in many places!

Pictures below are self explanatory of commendable works executed by the Madras Corporation to augment the water supply in the city.







ACHIEVEMENTS OF CENTRAL EXCISE COLLECTORATES IN Madras & Madurai

The Madras Custom House and Madras and Madurai Central Excise Collectorates are entrusted with the responsibility of administration of the Customs Act and the Central Excise and Gold Control Acts throughout the State of Tamil Nadu. The Tamil Nadu State has a long coastal area which is vulnerable to smuggling, particularly from Sri Lanka. Besides this, there had been considerable movement of smuggled goods from the Maharashtra, Karnataka and Kerala coasts by road across Tamil Nadu. Among interesting detections was one in which about 2,000 watches were transported from Bombay to Madras in a truck with an ostensible load of a generator but the watches were concealed in the spare sheel. Besides smuggling from Sri Lanka, occasional landings take place of smuggled fabrics and other consumer goods from Dubai through the East-coast.

The Officers of the Central Excise Department despite their pre-occupation with Central Excise and Gold Control, have been tackling the menance of smuggling along the Tamil Nadu coast. The areas of landing and concealment of the smuggled goods centre mainly in the marshy forest patches in Kodiampalayam, Chidambaram etc. of South Arcot District, Muthupet of Thanjavur District and Thoputhurai, Thankachimadam etc. of Ramnad District. The officers posted in these areas have to face various hardships including lack of essential necessities of life and are doing an onerous job against heavy odds from the climatic conditions on the one hand and the machinations of the ingenious smugglers who frequently stiff their modus operandi and scenes of activity on the other hand.

In the Tamil Nadu State, the anti-smuggling operations of the Madras and Madurai Central Excise have resulted in seizures of smuggled goods as follows for the last five years :

1971—72—rupees 125.76 lakhs

1972—73—rupees 115.14 lakhs

1973—74—rupees 120.46 lakhs

1974—75—rupees 164.26 lakhs

As a measure of incentive and to encourage officers who have a consistant record of good service and were responsible for substantial seizures of smuggled goods at grave risk to their life, the Government of India have instituted Presidential Award and Appreciation Certificate from the year 1962. These awards are granted only in consideration of exceptional meritorious service rendered by officers and staff in anti-smuggling work. Besides that, clean and efficient record of service continuously for over a period of years is also taken into consideration. This great distinction is conferred on the officers of this Department only in exceptional circumstances and such awards are few and far between. For example after the year 1972 the President has granted this Award only to Thiru S. Ramanathan Superintendent of Central Excise in these two Collectorates on the Republic Day, 1975 for his continuous meritorious record of service. The grant of Presidential Award is the highest honour conferred on the officers of this Department in recognition of the service rendered by them and it fulfils the greatest aspiration of the officers.

Thiru S. RAMANATHAN

Thiru S. Ramanathan, Superintendent of Central Excise, Headquarters Preventive Unit, Madras, the recipient of this highest honour, joined this Department as Inspector of Central Excise in the year 1944 and he has worked throughout the length and breadth of Tamil Nadu, Karnataka and Andhra Pradesh. This officer has worked in Central Excise Formations and in Customs Preventive Formations for anti-smuggling work and acquitted himself creditably in all the assignments given to him. For over 20 years he was continuously working in difficult customs formations and has done outstanding work. The Officer has also been responsible for spectacular seizures on the Central Excise side and detection of huge evasion of Central Excise duty. Similarly Thiru S. Ramanathan has also been responsible for seizures to the tune of Rs. 20 lakhs under the Gold (Control) Act. During the major part of his service in the Customs formations he had to function in inaccessible terrain moving mostly on foot or bicycle ; in areas such as South Arcot, Thanjavur etc., in which he was effectively performing his duties, he had to contend with a hostile population aligned to the smugglers. In such trying situations, Thiru S. Ramanathan exhibited commendable courage, foresight, initiative and high degree of detective and investigative ability and was responsible for seizures of smuggled goods worth over Rs. 82 lakhs. It is in the fitness of things that by the grant of Presidential Award, the Government has recognised honest and sincere efforts put forth by Thiru S. Ramanathan continuously for a period of over 20 years in anti-smuggling work.

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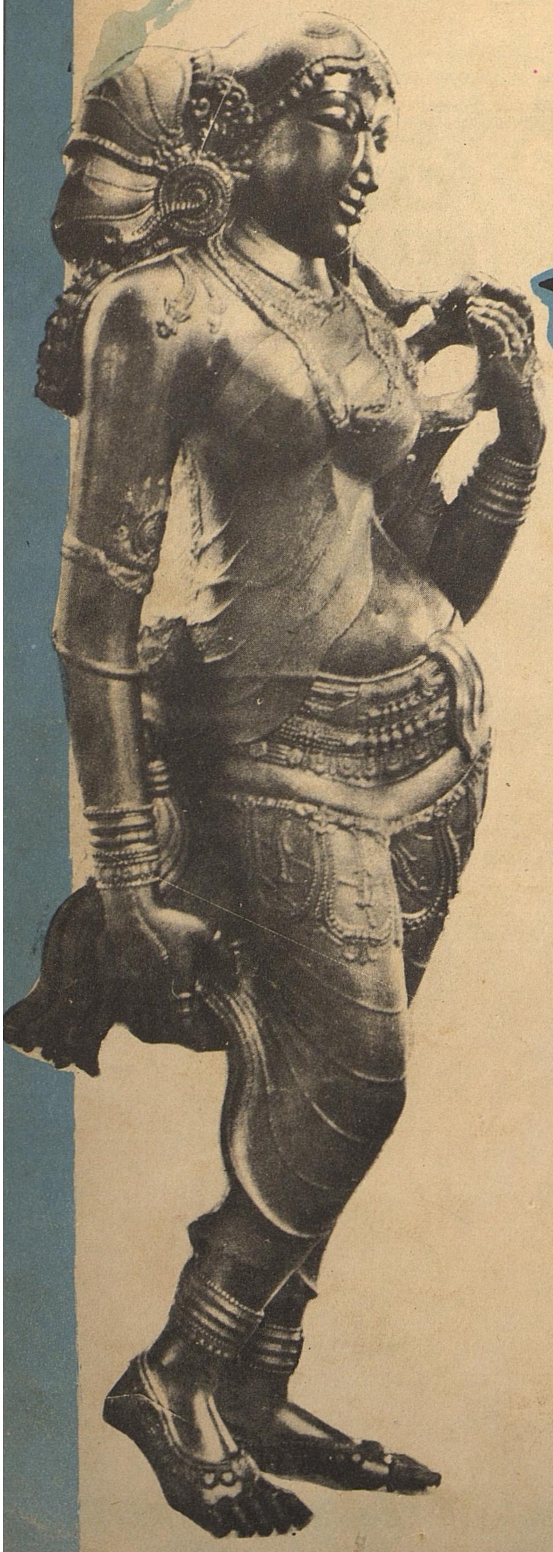
FOR A REAL INSIGHT INTO Tamil Culture



Kaveripoompattinam, known as Poompuhar in its more fortunate days was a well laid out port town which boasted of a separate settlement for the foreigners. Much of the archaeological remains still are there for us to see.

In addition, the recently constructed art gallery is the first attempt, after many centuries, at group-sculpture for which Tamil Nadu is justly famous. In the form of group-sculpture and also in individual figures a remarkable edifice to re-create the life and times of the Tamil classic " Silappathikaram " Story of of the Anklet has come up at Kaveripoompattinam in its art gallery.

FOR FURTHER DETAILS

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Poompuhar, Art Gallery

[VIA] SIRKALI, THANJAVUR DIST.

EDITED AND PUBLISHED BY THE DIRECTOR OF INFORMATION AND PUBLIC RELATIONS, GOVERNMENT OF TAMIL NADU AND PRINTED AT THE TAMIL ARASU PRESS, GOVT. ESTATE, MADRAS-600002.